FINAL REPORT

CALIFORNIA STATEWIDE PROCESS EVALUATION OF SELECTED DEMAND RESPONSE PROGRAMS

PROCESS EVALUATION OF PG&E, SCE, AND SDG&E'S CRITICAL PEAK PRICING AND BASE INTERRUPTIBLE PROGRAMS

Prepared for the Demand Response Measurement and Evaluation Committee (DRMEC) on behalf of San Diego Gas & Electric Company

Prepared by KEMA Inc.

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ES-1 Executive Summary

ES-1.1 Introduction

The California Public Utilities Commission charged the California investor-owned utilities (IOUs) along with the Demand Response Measurement and Evaluation Committee (DRMEC) with conducting a process evaluation of selected demand response (DR) programs. The selected programs include the Voluntary Critical Peak Pricing Program (CPP-V) and the Base Interruptible Program (BIP). Also included are SDG&E's Emergency Critical Peak Pricing Program (CPP-E) and recently added Default Critical Peak Pricing Program (CPP-D).

The IOUs along with the DRMEC were interested in understanding how the demand response programs performed relative to the program theories and rationale, and assessing implementation strategies and procedures. The IOUs and the DRMEC were also interested in assessing any progress made toward integrating demand response with energy efficiency programs.

ES-1.2 Project Goals and Objectives

The overall goal of the process evaluation is to provide feedback to program designers and administrators on program features and practices that result in successful execution of demand response strategies. The evaluation identifies what is working and not working in regards to event notification, customer response to notifications, and minimizing customer dissatisfaction leading to opting out of the programs altogether. A key evaluation objective was to gather customer feedback on what program features customers valued and what actions they took during events, assuming there were events.

The broad evaluation objectives included:

- Provide documentation of program theories or rationale, program goals, implementation strategies and procedures across the Utilities;
- Evaluate the effectiveness of marketing strategies and messages across utilities;
- Assess the effectiveness of program implementation and delivery strategies in eliciting customer response to events, customer retention and reasons for opting out, and overall customer satisfaction; and

- Provide feedback on customer awareness and interest in integrating demand response programs with energy efficiency programs.

ES-1.3 Evaluation Approach

The evaluation approach consisted of a multi-tiered data collection and analysis strategy using an online survey and probing in depth when it should yield more robust results. The team used online surveys, in-depth interviews, and workshops to probe and gather quantitative and qualitative results to support the analysis objectives.

The evaluation multi-tiered approach included:

- **Online surveys** as a cost-effective vehicle to gather quantitative information from all program participants and to help prioritize data collection from participants who can provide more in-depth information
- **In-depth interviews** as a means to gather qualitative information for key evaluation objectives based on customer actions/awareness of events
- **Workshop and in-depth interviews with program staff and account executives** to determine program theories and rationale and to assess what is and what is not working regarding program implementation; and to identify integration activities that are in place and/or planned.

ES-1.4 Key Findings

Face-to-face contact along with follow-up to answer questions appears to be the most successful way to promote DR programs. It also helps to present customers with visual explanations (e.g. charts and graphs) and analysis that demonstrates the rate impacts of different scenarios. This will help a customer understand how a tariff could potentially impact their bill and provide guidance on which tariff to enroll in.

The biggest barrier to customer participation in DR is related to concerns that curtailing load would impact the customers' core business functions. To engage customers on DR strategies, IOUs need to first fully understand what these core business functions are and then figure out what load reduction strategies will work within those constraints.

Another barrier to customer participation is the "structural barrier" where customers have difficulties with dropping load due to the type of business or operations they run. Types of

customers with structural barriers include: hospitals, property management offices (may conflict with tenant contracts), some food processors (due to short season to complete their work); oil refineries (have to run around the clock and incentives are too small for shifting load), and data centers and Telecommunications (must also be on around the clock). As such, IOUs will need to target customers with high load factors and constant loads who do not fall into these categories. These customers tend to not have to drop much load for DR to be beneficial.

Access to experts such as those with the TA/TI program is ideal since they will have more knowledge about facility processes and organizational barriers. There are multiple considerations (e.g. staff time, production schedule, costs) that must be evaluated to identify strategies to reduce load during peak periods, in addition to technical potential. For instance, staffing considerations are found to be extremely important, as companies do not want their staff to be idle during a DR event; so plans for responding to events must include strategies for re-organizing employee work, in addition to the technical strategies.

Finally, lack of an energy management system (EMS) is a key barrier to participation. Having an EMS would be very beneficial for customers that have multiple sites because then the facility manager would not have to go from building to building to adjust thermostats and other settings.

ES-1.4.1 Base Interruptible Program

The Base Interruptible Program is a voluntary demand response program that offers participants a monthly capacity payment in exchange for the commitment to reduce their energy consumption to a pre-determined level established by contractual agreement between a given utility and customer. This pre-determined energy consumption level is known as the firm service level (FSL). The primary success of BIP is due to how attractive the program is to large customers (200 kW and above). Customers are attracted to BIP because there is low risk of an event occurring matched with large incentives. Customers stand to earn sizeable monthly credits for participating in the program. However, the penalties are also substantial if during an event the customer fails to meet its commitment level.

There is a concern that the introduction of the new “pre-Stage 1” trigger may result in more events than in the past. So far, only two IOUs have called BIP events in the past two years. Program managers are concerned that if more events occur, customers may reassess the risk/reward balance for participating in the program and decide the risk is too great.

To date, only PG&E has had some success with working with aggregators to recruit customers to their program. Program managers attribute the lack of success using aggregators to the very high threshold aggregators need (at least 1 MW of load) before incentives kick-in.

A key success factor for PG&E has been to provide customers with customized reports on how they performed during an event. This information includes their monthly incentive, and whether they met their commitment level and an explanation for a penalty if it occurs and how the calculation was done. According to PG&E, customers have responded very well to receiving the reports.

The SCE BIP program manager attributes recruiting success to account executives (AEs) that are there for their customers. These AEs basically hold customers' hands and help them through the analysis, showing them what they can do to reduce load. SCE is looking to make this an ongoing standard for how AEs interact with customers.

The SDG&E program manager attributes success to: having program consistency (BIP has been around for a long time), the capacity discount, availability of the KWickview energy management tool, monthly communications with the customer, and good program operations (i.e., customer knows how to react when notified of an event.)

ES-1.4.2 Voluntary Critical Peak Pricing

When it comes to recruiting, the relationship the account executive has with the customer makes all the difference. PG&E's enrollment suffered in 2008 when after reorganization they lost their most seasoned AEs. PG&E has taken steps to rebuild manpower by training the less experienced account executives, yet they continue to see defections from their program as customers migrate to their Aggregator Managed Portfolio program or, AMP.

SCE experienced a more positive outcome due to account executive recruiting efforts in 2008. By arming AEs with results from a billing analysis that identified probable program benefiters (i.e., TOU-8 customers), coupled with a targeted marketing campaign, the SCE CPP-V program saw a huge increase of 349% in enrollments versus the previous year.

SDG&E implemented default CPP in 2008 and all voluntary CPP customers were moved over to the default CPP rate.

Another key factor to program success is to not make the program complicated and to not overwhelm the customer with too much information. The program should be easy for the

customers to understand; too much information could be a barrier to decision making. It also helps to have a help desk with well trained customer service reps that can answer customer and AE questions.

ES-1.4.3 Default CPP Rollout Lessons Learned

During the course of this study, only SDG&E had fully rolled out their Default CPP Program. SCE had just begun their roll out of Default CPP Program as the study concluded and PG&E had just started notifications. The following observations and lessons learned are primarily from SDG&E, (unless otherwise noted).

SDG&E program staff identified many administrative challenges regarding the roll-out that could have been managed more efficiently if there had been enough time for proper planning and research. SDG&E began planning in December 2007 and their customers were defaulted in May 2008. Many of the challenges had to do with internal communications across departments when it came to customer eligibility; scheduling and collecting customer information; customer communications, and program design impact on customers. Some key lessons learned from this experience include:

- Ensure that the parameters for customer eligibility are clear and that eligibility is easy to determine using existing utility data. Without this consistency, SDG&E had to update the eligibility list several times as enrollment criteria change based on input from multiple departments.

- Bear in mind how the rate will impact customers, not just accounts, and consider conducting customer research on the rate design. Setting eligibility at the meter/account level can make decision-making at all levels very difficult for customers with multiple accounts, especially if each account has different dates for eligibility, etc.

Sync up the deadlines for the Capacity Reservation Charge (CRC) election and for the Opt-out election. The Capacity Reservation Charge allows customers to reserve a specific amount of energy that is not subject to the critical pricing through the payment of a fixed monthly charge. Also, to prevent having to re-bill customers, these deadlines should occur before the event season. SDG&E AEs struggled to develop a clear and consistent message to deliver to their customers due to the complicated nature of the tariff and the short time period for educating customers. As a result, AEs were very hands-on with their customers, meeting face-to-face with many of them and staying in touch regularly via phone and email with updates and new information. This approach worked well for large customers, but this can be a very labor

intensive approach for mass markets. If AEs are to use this approach, they will need to have a longer lead time and will need to develop easier to understand customer communications.

The online tools that were made available to customers were inflexible and required a lot of assistance from the AEs. There were also major issues with KWickview allowing only one customer contact name on the account, (which is usually the first person to sign the company up for My Account, no matter that the person may have signed up a month or several years ago). The tool is also inefficient in that it allows customers to view only one account at a time even though many large customers may have hundreds of accounts. Also, customers could not view data in KWickview in real-time during events; they only had access to historic data.

Overall, the IOUs expressed mixed results in preparing for the CPP-D roll-out.[1] SDG&E's AEs reported having challenges with the complex program structure and multiple deadlines with very little time to prepare. So far, SCE reps indicated the roll-out occurred smoothly. PG&E is getting feedback from customers indicating there are still many questions and possibly negative perceptions based on the initial communications, indicating the need for ongoing education and communication.

ES-1.4.4 Customer Interviews

Overall, DR participants generally find utility communications about programs to be satisfactory. However, some dissatisfaction was reported when it came to specific communications about SDG&E's CPP-D tariff. Both the CPP-D participants and Opt-out customers who were not satisfied (about 20% each) found the communications about the CPP-D rate in general confusing; and a larger percent (40%) found the Capacity Reservation Charge difficult to understand.

CPP-D Opt-Out customers said that they would be more likely to go on the CPP-D rate if they had a better understanding of the rate and the potential benefits. Some of these customers would be satisfied with more contact with an AE or other SDG&E representative to help them gain a better understanding of the CPP-D rate, while others would prefer to see a detailed billing analysis to demonstrate the possible savings. These findings are consistent with comments made by program staff and AEs on the value customers have in face-to-face contact with their reps and the desire for more analysis.

[1] SCE began defaulting customers on CPP in late 2009 and PG&E will default customers on the CPP rate in 2010.

DR respondents from all programs and tariffs generally had a good understanding of the difference between demand response and energy efficiency. Here again, they express how the IOUs could improve communications on the concepts and advantages of DR and EE with greater contact from Account Executives or Account Representatives.

With respect to demand response events, DR respondents from all programs were generally satisfied with event notifications. However, respondents echoed observations made by the program staff and AEs regarding the problem of not being able to notify multiple contacts at an organization prior to an event. Respondents from each program/tariff also stated that more detail on the reason for the event would be helpful.

ES-1.5 Recommendations

Following are recommendations for improving program management in regards to design and tools, and for marketing and communications. Also follows are recommendations and lessons learned from SDG&E's experience with rolling out the CPP-D tariff.

ES-1.5.1 Program Management, Design and Tools

- **Improve technical support services to help customers identify opportunities to reduce energy load**. Suggestions include increasing energy audits, clearly explaining measures, producing written reports and requiring oral presentations with key site stakeholders. The TA/TI program should be revived for PG&E and used to assist customers with identifying opportunities and offering incentives for necessary equipment upgrades to facilitate DR participation.

- **Ensure that participation in DR programs includes a strong component to assist customers with identifying curtailment measures and incentives for controls**. When customers sign up for DR programs, they should automatically receive an energy audit as a component for participation. Also assist customers to take advantage of available energy efficiency rebates for Energy Management Systems.

- **Keep things simple as possible.** BIP is simple and easy to understand. Seek to design the CPP-Default tariff to be as simple as possible. For example, SDG&E could consider renaming the capacity reservation charge component of the tariff to something easier to understand.

- **Leverage multiple channels to inform customers of CPP-Default.** Since customers are often preoccupied with their principal job functions, marketing efforts require persistence.

- **Continue efforts to integrate DR/EE to increase customer options for programs.** AEs like having different program options to present to customers. The variety enables AEs to find programs to best suit customer needs and address concerns related to risk, flexibility and ability to choose level of curtailment commitment.

- **Provide participating DR customers with feedback on their performance.** AEs and program staff are currently providing this on an ad hoc basis. This type of feedback is valuable to customers, both to inform them of successful (and not successful) attempts and validate the financial benefits of participation. Customers in particular would like to receive year-end reports, which detail their performance during the year and during events.

- **Add enhancements to the online tools (notification tools and customer load analysis tools)**. Allow customers the ability to register more than one contact name for notification of events; allow the tool to cover multiple customer accounts; develop benchmarks by customer type/segment so customers can view likely scenarios for their type of business; allow for extrapolation of prior data so customers with less than twelve months of data can still benefit from the tools, even if only to a limited extent; make interval data available to view live during an event for CPP customers.

ES-1.4.2 Marketing, Outreach and Communications

- **Use billing analysis that identifies customers who are likely to benefit from DR programs** to generate recruiting prospect lists. Provide marketing support with targeted messaging for key segments.

- **IOUs should target the following types of customers who seem to be more successful in DR programs:**

- **Customers with high load factor.** Customers with high load factors can see significant financial benefits on the CPP rate. For facilities that are required to operate 24-7 (e.g. data centers) dropping load during DR events can present significant challenges. These customers are usually unable to shift load to nights or weekends because their energy demand is relatively constant with little or no down time. As such, facilities are exposed

to higher CPP event rates if there are numerous events called in a given year. However, the rate savings these customers receive during non-event days typically offset higher rates paid during events, even when load cannot be shed.

- **Customers with batch processes.** Some industrial customers have more flexibility with their production schedule during these economic times. For instance, rock crushing operations can build up extra inventory, so that a DR event will not impact their production schedule. Similarly, another manufacturer of plastic vegetable totes found that they can build inventory instead of using a "just in time" approach, so they can now afford to shut down for DR events. For timber mills, some operations (such as de-barking logs) can be completed prior to the peak period when notified.

- **Customers with standby generators.** Several AEs mentioned that customers with their own standby generators can participate in DR programs. Although this raises issues related to air quality concerns, for the purposes of grid reliability, this is an effective strategy to respond to DR events. Timber mills, water agencies, and some commercial/industrial operations have standby generators. When evaluating whether to participate in a DR program, however, customers must factor in additional standby generator operating costs.

- **Provide examples of successful customers** (e.g. similar customer types, peers, competitors). A couple of AEs found that high tech accounts were motivated when they heard about their peers successfully participating in DR programs.

- **IOUs need to simplify communications to customers** about programs and rates and should summarize information on penalties and savings so they are easy to understand. Communications should strive to educate new customers and provide continuing education for existing customers.

ES-1.4.3 CPP-D Rollout

- Demand Response program managers should allow for adequate internal planning and customer research time (at least one year.) Make sure all departments involved in the implementation and operations for delivering CPP-D are included in the planning. This should include billing, rates, customer service, business customer service (AEs), marketing, and energy efficiency. Develop coordination plans for working across departments.

- Automate internal customer processing, or at least make the forms very easy to data enter. Also consider online customer enrollment.
- Determine the rules and process for establishing customer eligibility ahead of time, addressing major issues such as customers with multiple accounts and allowing enough time to develop a final eligible customer list before the roll-out; develop procedures for continuously updating the customer eligibility list.
- Develop program/rate policies and procedures well in advance of the roll-out.
- To minimize possible increase in opt-outs due to increase in events, establish ongoing communications plans to keep customers informed and provide suggestions/recommendations for how to prepare for an event.
- Provide customized billing analysis to individual organizations that demonstrate the potential savings of being on the CPP-D rate.
- AEs need to explain rate details and benefits thoroughly in order for customers to feel comfortable about going on the CPP-D rate. This is particularly true for SDG&E's Capacity Reservation Charge where customers can limit their exposure to the higher rates during events. SDG&E should explain this mechanism to potential CPP-D customers as thoroughly as possible.

2. Process Evaluation

2.1 Introduction

The California Public Utilities Commission charged the California investor-owned utilities (IOUs) along with the Demand Response Measurement and Evaluation Committee (DRMEC) with conducting a process evaluation of selected demand response (DR) programs. The selected programs include the Voluntary Critical Peak Pricing Program (CPP-V) and the Base Interruptible Program (BIP). Also included are SDG&E's Emergency Critical Peak Pricing Program (CPP-E) and recently added Default Critical Peak Pricing Program (CPP-D).

San Diego Gas & Electric Company (SDG&E) managed this effort on behalf of the Demand Response Measurement and Evaluation Committee (DRMEC).The DRMEC is comprised of representatives from Pacific Gas & Electric Company (PG&E), Southern California Edison Company (SCE), SDG&E, the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC).

The team submitted a draft research plan on February 24, 2009 that included a proposed evaluation plan for this project. Subsequent to submitting the draft plan, we conducted program staff interviews and we submitted a revised plan to provide more detail on our approach to the research tasks based on results of the staff interviews. The subsequent research efforts incorporate utility and DRMEC comments from the revised plan and are presented in the following report.

2.2 Program Description

Based on a review of program planning documents and information gathered in program staff interviews conducted during March and April 2009, we developed the basic program descriptions, provided below.

PG&E, SCE and SDG&E administer Demand Response programs including the following programs, which are addressed by this evaluation:

- **Critical Peak Pricing (CPP):** a pricing program whereby participating customers pay lower rates during non-CPP summer season hours and higher rates during critical peak periods when a CPP event is called. PG&E and SCE currently offer a voluntary Critical Peak Pricing opt-in tariff for bundled customers as an alternative to traditional time-of-use rates. SDG&E launched the Default Critical Peak Pricing (CPP-D) tariff in May of

2008, which is an opt-out tariff for bundled customers with 15-minute interval data recording meters with telecommunications. Customers who were on SDG&E's voluntary CPP program are now on CPP-D. SDG&E also has an Emergency CPP program (CPP-E. PG&E plans to launch CPP-D in the near future and SCE launched CPP-D in late 2009.

- **Base Interruptible Program (BIP)**: a voluntary demand response program that offers participants a monthly capacity payment in exchange for the commitment to reduce their energy consumption to a pre-determined level established by contractual agreement between a given utility and customer. This pre-determined energy consumption level is known as the firm service level. Participants who do not reduce their load to their established firm service level during a demand response event are subject to financial penalties, which are assessed on a kW per hour basis.

2.2.1 Critical Peak Pricing

Prior to 2008, all of the utilities' non-residential CPP rates were voluntary, "opt-in" rates. However, beginning in May 2008, SDG&E implemented a default CPP tariff with an "opt-out" provision, and began transitioning previous volunteers onto the new default rate. SCE's default opt-out CPP rate was implemented in late 2009, and PG&E recently proposed a default CPP tariff, referred to as Peak Day Pricing (PDP), for large, medium, and small non-residential customers that will be established in 2010, with a transition period for customers of different sizes.

The utilities' voluntary CPP rates have similar structures, but differ in terms of customer eligibility,[2] price levels, hours of application, number of events that may be called, and months of applicability. PG&E's CPP rates are tied to customers' otherwise applicable tariff (*e.g.*, it provides *credits* during non-CPP on-peak and part-peak hours, and *charges* during event hours on CPP days), and thus takes on different values for different rate classes. The rates have a moderate price for the first three hours and a high price for the last three hours of the six-hour event period.

[2] For example, only non-residential customers with maximum demands of over 200 kW are eligible to enroll in PG&E's current voluntary CPP program.

SDG&E's default CPP also takes on different values for different rate classes. The default CPP rate is a commodity only rate and customers pay all non-commodity charges according to their otherwise applicable tariff. Customers on SDG&E's default CPP are allowed to pay a monthly capacity reservation charge (CRC) that limits their exposure to CPP costs on event days.

SCE offered two CPP tariffs. One, CPP – Volumetric Charge Discount ("CPP-VCD"), is of similar structure to those of the other utilities. The other, CPP – Generation Capacity Charge Discount ("CPP-GCCD"), is aimed at large (> 500 kW) customers, and involves a single high CPP price for the entire six-hour critical period on event days in return for a discounted summer on-peak demand charge.

2.2.2 CPP Enrollment

Enrollment in CPP at PG&E expanded from 337 customer service accounts in 2006 and 656 accounts in 2007, to 760 accounts in 2008.[3] The total load of customer accounts enrolled in CPP, measured as the sum of individual customers' maximum demands, amounted to 481 MW.[4] The Manufacturing; Offices, Hotels, Finance and Services; and Schools industry groups made up the bulk of PG&E's CPP enrollment. SCE's enrollment in CPP expanded from just 15 customer accounts in 2006, to 44 accounts in 2007, and 201 accounts in 2008. Manufacturers made up the bulk of CPP program participants at SCE. Figures 1 and 2 show the distributions of enrollment across industry-types at PG&E and SCE based on the share of total maximum demand. Differences in the CPP programs by utility are summarized in Table 2-1 below.

At SDG&E, approximately 1,800 customers, most of which were greater than 200 kW in size were defaulted onto a new CPP rate in May 2008.[5] Approximately three-quarters of those

[3] The number of accounts enrolled in PG&E's program is defined as the number of service agreement identification numbers (sa_ids) that are listed as "enrolled" in PG&E's database. Frequently a single customer will have more than one sa_id – for example if a customer enrolls multiple facilities at different locations in the CPP program.

[4] The sum of participating customers' maximum demands represents a convenient metric for characterizing program enrollment. However, the hourly load impacts and percentage load impacts on CPP event days that are reported in the text are calculated relative to a *reference load* that represents an estimate of what customers' usage would have been on a comparable non-event day.

[5] Customers of size greater than 20 kW were also eligible for the new CPP default rate if they met the interval data recorder metering requirement and had previously been on a demand response program.

customers remained on the rate in the first year, declining to opt out to the new otherwise applicable time-of-use rate.

Figure 1: Distribution of CPP Enrollment by Industry Type – PG&E

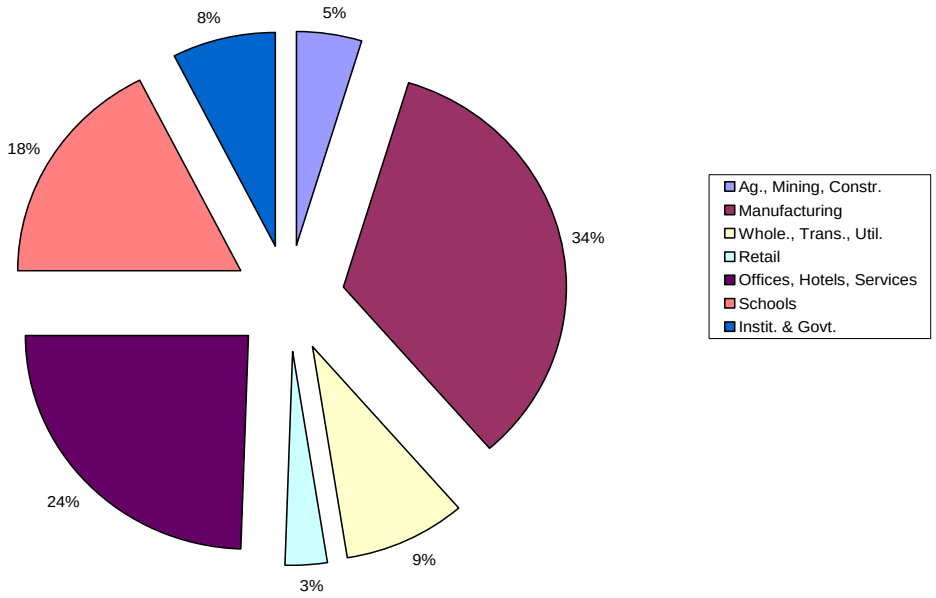

Figure 2: Distribution of CPP Enrollment by Industry Type – SCE

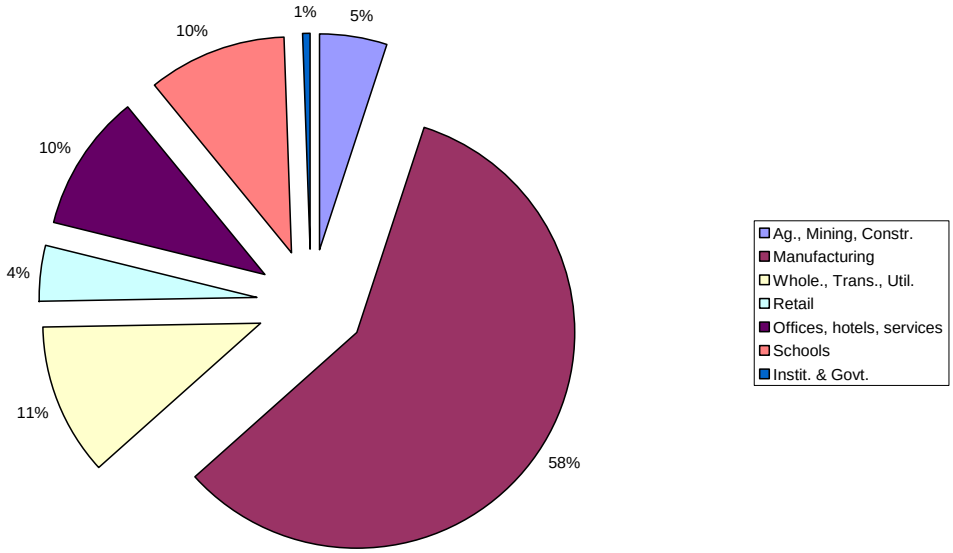

Table 2-1: Critical Peak Pricing Programs

Utility Program	Minimum Customer Demand	CPP Event Criteria	Current Participation Level	Number of 2008 Events Called	Notes
PG&E: CPP-V	200 kW, interval meter with internet access to PG&E's Inter-Act demand response operations website	May – October, noon to 6 pm, max 12 events	760 service accounts as of Jan. 2009[6]	12	Plans to offer default CPP in May 2010 for 200 kW+ customers
SCE: CPP-V	200 kW for volumetric charge discount (VCD) and 500 kW for generation capacity charge discount (GCCD)	June 1 – October 1, noon to 6 pm on weekdays excluding holidays, max 12 events up to 4 for testing and evaluation purposes	201 accounts as of January 2009[7]	12	Marketing campaign to non-participants in summer 2008 and 2009 expected to increase participation levels; CPP-V planned to be replaced with default program October 2009 for customers 200 kW and greater and optional CPP tariff for agricultural customers with IDR meters and smaller customers with smart meter deployment
SDG&E: CPP-V	20 kW	May – September, Monday – Saturday from 11 am to 6 pm, max 15 events	20 accounts as of Jan. 2009	0	Closed to new customers. As of May 2009, there are no customers on this program.
SDG&E: CPP-E	Prior to 2008, 300 kW	Year round, Monday – Sunday, any time of day or night, max 4 events per month, max 80 hours per year,	10 accounts as of Feb. 2009	0	Program is continuing through 2009-2011

[6] Christensen Associates Energy Consulting and LLC & Freeman, Sullivan & Co. *2008 Load Impact Evaluation of California Statewide Critical-Peak Pricing Rates for Non-Residential Customers: Draft ex post and ex ante report.* April 10, 2009. p. 3.
[7] Ibid.

Utility Program	Minimum Customer Demand	CPP Event Criteria	Current Participation Level	Number of 2008 Events Called	Notes
SDG&E: CPP-D	20 kW with 15-minute interval data recording meters with telecommunications	May – September, 11 am – 6 pm, Monday – Saturday, max 18 events per year	1326 as of Jan. 2009	0	Default for 200 kW+ customers; opt-in for 20 kW to 200 kW customers with interval meters; customers who opt-out are put on the AL-TOU rate (approx. 25% opted out)

2.2.3 Base Interruptible Program

The interruptible tariff is available to both customers and aggregators who meet a minimum level of demand. Customers who agree to reduce their load during curtailment events to a firm service level, a previously established level of minimum consumption, receive a monthly capacity payment. Participants who do not comply with curtailment orders are subject to a large non-compliance penalty on energy used in excess of their contracted amount. Customers are offered a choice of response time, which varies among the utilities, but generally is 30 minutes for most participants. A statewide stage Emergency issued by California ISO may trigger a program event any time of the day or any day of the year. Likewise, the utilities can call local emergencies at any time. Prior to 2009, BIP could only be triggered by the California ISO during Stage 2 emergency conditions. The California Public Utilities Commission (CPUC) now allows the ISO to trigger BIP prior to a Stage 1 emergency after a Warning has been issued for the same day.

SCE's BIP program is designed for customers and aggregators with demands of 200 kW and above. The program includes two notification options: Option A with a 15 minute notification lead time and Option B with a 30 minute notification requirement. Interruption events for an individual BIP customer or aggregated group are limited to no more than one 4-hour event per day, and no more than 120 hours per calendar year. An interruption event may be called at any time during the year.

As of January 31, 2009, SCE had 583 service accounts enrolled in the BIP program. As indicated in Table 2-2, the largest number of accounts is from the manufacturing sector. SCE's service territory includes three CAISO local capacity areas.[8] The vast majority of service accounts (473 out of the 583 BIP accounts) are in the LA Basin LCA; 83 are located in the Ventura LCA and the remaining 27 are in the Outside LA Basin LCA.

Going forward, SCE expects enrollment to grow by five percent per year from 2009 through 2011 and then to stay constant from 2011 through 2020.

[8] Local Capacity Area (or LCA) refers to a CAISO-designated load pocket or transmission constrained geographic area for which a utility is required to meet a Local Resource Adequacy capacity requirement. There are currently seven LCAs within PG&E's service area, 3 in SCE's service territory and 1 in SDG&E's service territory. In addition, there are many accounts not located within any specific LCA. These accounts are categorized here as being in an Other LCA region.

Table 2-2: Number of Service Accounts in SCE BIP Program

Industry	Number of Service Accounts
Agriculture, Mining & Construction	67
Manufacturing	331
Wholesale, Transport, other utilities	61
Retail stores	14
Offices, Hotels, Finance, Services	44
Schools	58
Institutional/Government	8
Total	*583*

Customers can enroll in PG&E's BIP program either directly or through an aggregator. All directly-enrolled customers electing Option A may also participate in PG&E's Under Frequency Relay (UFR) Program. The UFR Program is not available to customers enrolled through aggregators. Under the UFR Program, customers agree to be subject at all times to automatic interruptions of service caused by an under frequency relay device that may be installed by PG&E. PG&E may require up to three years' written notice for termination of participation in the UFR Program. Customers participating in the UFR program will receive a demand credit on a monthly basis based on their average monthly on-peak period demand in the summer and their average monthly partial-peak demand in the winter.

The program is designed for customers and aggregators with minimum demands of at least 100 kW. PG&E offers customers two notification options within its BIP program. Customers enrolled in Option A are notified at least 30 minutes in advance of a BIP event, while those enrolled in Option B are notified at least 4 hours in advance. At present, all customers enrolled in BIP are signed up for Option A. Interruption events for an individual BIP customer or an aggregated group of customers are limited to no more than one 4-hour event per day, no more than 10 events per month, and no more than 120 event hours per calendar year. An interruption event may be called under BIP at any time during the year.

As of January 31, 2009, there were 149 service accounts enrolled in PG&E's BIP program. Table 2-3 shows the distribution of those service accounts by industry grouping. As was true for SCE's program, the largest number of accounts came from the manufacturing sector. Table 2-4 shows the distribution of PG&E BIP accounts across the LCAs within PG&E's service area.

Table 2-3: Number of Service Accounts in PG&E BIP Program

Industry	Number of Service Accounts
Agriculture, Mining & Construction	27
Manufacturing	71
Wholesale, Transport, other utilities	39
Retail stores	1
Offices, Hotels, Finance, Services	8
Schools	1
Institutional/Government	2
Total	*149*

Table 2-4: Number of Service Accounts in PG&E BIP Program

Local Capacity Area	Number of Service Accounts
Greater Bay Area	20
Greater Fresno	6
Humboldt	7
Kern	16
Northern Coast	17
Sierra	7
Stockton	9
Other	67
Total	*149*

SDG&E's BIP is a voluntary program that offers participants a monthly capacity bill credit in exchange for committing to reduce their demand to a contracted Firm Service Level (FSL) on short notice during emergency situations. SDG&E offers two options that vary with respect to the notification period, number and duration of allowed events and incentive payments:

- BIP-A (Option A): Requires load reduction response in 30 minutes. Incentive payments are $7/kW. The maximum event length is 4 hours per day and the maximum number of events is 10 per month and 120 hours per calendar year.
- BIP-B (Option B): Requires load reduction response in 3 hours. Incentive payments are $3/kW. The maximum event length is 3 hours per day and the maximum number of events is 10 per month and 90 hours per calendar year.

Participation grew from 3 to 20 participants in 2008. The current distribution of service accounts by industry is shown in Table 2-5. There is only one LCA in SDG&E's service territory.

Table 2-5: Number of Service Accounts in SDG&E BIP Program

Industry	Number of Service Accounts
Agriculture, Mining & Construction	0
Manufacturing	5
Wholesale, Transport, other utilities	2
Retail stores	2
Offices, Hotels, Finance, Services	9
Schools	0
Institutional/Government	2
Total	*20*

Differences in the BIP by utility are summarized below in Table 2-6.

Table 2-6: Base Interruptible Programs

Utility	Minimum customer demand	Notification options	Number of allowable interruption events	Current participation level	Number of 2008 events called	Notes
PG&E	100 kW and above[9]	A: 30 minutes B: 4 hours	No more than one 4-hour event per day, nor more than 10 events per month, and no more than 120 event hours per calendar year[10]	149 accounts as of Jan. 31, 2009 [11]	1 test event on Aug. 28, 2008 from 3 to 5 p.m.	Option A customers are eligible for PG&E's Underfrequency Relay (UFR) Program.
SCE	200 kW and above	A: 15 minutes B: 30 minutes	No more than one 4-hour event per day, or no more than 120 hours per calendar year	583 accounts – as of Jan. 31, 2009[12]	Not activated in 2008	Customers on the old I-6 tariff were transitioned to BIP and other DR programs, or opted out, by Dec. 1 2008
SDG&E	100 KW and above	A: 30 minutes B: 3 hours	Option A: No more than one 4-hour event per day, nor more than 10 events per month, and no more than 120 event hours per calendar year. Option B: No more than one 3-hour event per day, or more than 10 events per month, and no more than 90 event hours per calendar year.[13]	20 accounts as of Jan. 2009	Not activated in 2008	Low, but increasing, participation over time

[9] Freeman, Sullivan & Co. *Load Impact Evaluation of California's Statewide Base Interruptible Program.* April 9, 2009. p. 5.
[10] Ibid.
[11] Ibid.
[12] Ibid. p. 4.
[13] FSC *Load Impact Evaluation*. p. 6.

2.3 Program Theory

Based on interviews with the IOU DR program staff and AEs and review of the utilities' load impact evaluation plans for their Statewide Demand Response programs for 2008 (August 15, 2008), we developed a program theory. The purpose of a program theory is to document the context and rationale underlying a program design. Key elements include a description of the current situation that is driving the need to develop a program and/or actions. In this case, the situation for IOUs is the need for more reliable dispatchable or callable load to address capacity constraints as well as the need to respond to CPUC directives. The strategies are the programs themselves and the changes and enhancements to the programs needed to address the situation. Inputs are types of infrastructure/resources needed to advance the strategies. Activities usually address the program tactics or activities that will occur to advance the strategies toward the outputs. Outputs are the short-term, near and long term targets and/or goals that the programs hope to achieve. Barriers highlight key areas of difficulty that the programs may encounter and will need specific actions to overcome (or may not be able to overcome). Finally, impacts are the desired, lasting effects from the program itself. Table 2-7 illustrates the DR program theory for BIP and Default CPP programs.

Table 2-7: Program Theory

Situation	Strategies	Inputs	Activities	Outputs	Outcomes-- Short Term	Outcomes-- Long Term	Impact
Peak Demand exceeds capacity during critical periods. Peak Demand threatens power stability and integrity. Need to increase and maintain capacity of reliable dispatchable load	Restructure DR programs to eliminate less reliable programs; offer Firm Service Levels and Capacity Reservation Charge; w/incentives/penalties.	Notification software and monitoring capabilities; Load analysis tools; availability of EE programs; TA/TI	Face-to-face education and outreach; email notifications; follow-up reporting on performance; AE and aggregators to recruit for DR programs	Real-time and near real-time assessment of participation rates during events	Peak load savings, increasing annually	Maintain peak load savings at targets	Lasting load shifting and consumption reduction
CPUC mandates for price responsive rates and programs. Two-way communications meter technology will soon be available to all customers due to Smartmeter rollout.	Shift current CPP-V and Demand-bidding to CPP-Default	CPP-D Program with option to opt-out; IDR meters already installed so can fast-track participation;1 yr. Bill protection	Face-to-face education and outreach to alert customer of default rate; assist with analysis on how to benefit from the rate	Near-real-time assessment of participation rates during events	Improved customer understanding of DR and responsive to events with minimum opt-outs	Increased savings in response to CPP events	Customer capable of responding to events without risk
Many large customers >200 kW familiar with demand response programs; however, need greater numbers to participate to offset costs of smartmeter investment	Expand participation to include customers >20 kW to increase DR capacity	CPP-D Program with option to opt-out; Phasing in small-medium nonresidential customers 2008, 2009, 2010	Install interval data recording SmartMeters with Telecom (IDRs); letter notifications of default rate	Near real-time assessment of participation rates during events	Customers learn to shift loads effectively	Increased savings in response to CPP events	Customer capable of responding to events without risk
Need assist customers with optimizing all demand-side managerment opportunities to reduce load.	Integrate DR with EE into account service portfolio	Load analysis tools; availability of EE programs; TA/TI	Assist customers by recommending IDSM options that meet their needs	Increase uptake of DR and EE since optimized to meet customer's needs	More efficient portfolio strategy	Peak load and energy savings at or exceeding potential savings	Increased customer knowledge on how to manage energy use
Barriers:							
DR perceived to pose too great of a penalty/risk for event non-participation		1 yr. bill protection; FSL; CRC	Present case studies on how similiar customers met targets				
Incentive not enough to offset customer costs			Present case studies on how similiar customers met targets				
Difficult for customers to shift loads on short notice		Energy audits; Load profile analysis; TA/TI assistance	Help establish plan for reducing load that is simple to enact; rebates for EMS				

2.4 Research Objectives

The overall goal of the process evaluation is to provide feedback to program designers and administrators on program features and practices that result in successful execution of demand response strategies. The evaluation was to identify what is working and not working in regards to event notification, customer response to notifications, and minimizing customer dissatisfaction leading to opting out of the programs altogether. A key evaluation objective was to gather customer feedback on what program features customers valued and what actions they took during events, assuming there were events.

The broad evaluation objectives include:

- Provide documentation of program theories or rationale, program goals, implementation strategies and procedures across the Utilities;
- Evaluate the effectiveness of marketing strategies and messages across utilities;
- Assess the effectiveness of program implementation and delivery strategies in eliciting customer response to events, customer retention and reasons for opting out, and overall customer satisfaction; and
- Provide feedback on customer awareness and interest in integrating demand response programs with energy efficiency programs.

2.5 Methodology

This section provides an overview our data collection and analysis approach.

2.5.1 Staff Interviews

The purpose of the staff interviews was to gather information to support documenting the program theory and logic models and to help guide the subsequent customer research tasks. The team completed interviews with the 6 IOU program managers.

Table 2-8 provides a list of topics that were covered during the interviews.

Table 2-8: Staff Interview Topics

Analysis Objectives	Programs Covered	Data Collection Activities
Program Management • Determine program operations and business objectives • Determine rationale for program features and delivery process (i.e., program theory) • Map out program implementation process; i.e. delivery channels, database tracking, internal communications, etc. • Identify process for notifying customers of events • Identify linkages to other utility programs, including TA/TI14 and other energy efficiency programs • Identify concerns regarding program implementation; what's working and not working	CPP-V CPP-D BIP	IOU staff interviews
Marketing Assessment • Identify IOU marketing delivery strategies; i.e. direct mail, face-to-face marketing, trade outreach, etc. • Identify marketing messages, communication strategies • Integration of energy efficiency in demand response program marketing	CPP-V CPP-D BIP	IOU staff interviews

2.5.2 Interviews with Utility Account Executives

The team held a group meeting with SDG&E account executives who are tasked with communicating and delivering demand response programs to customers. Due to logistical difficulties in marshalling PG&E and SCE account executives to one location for a half day, the team conducted individual interviews (10 each) with account executives for PG&E and SCE. The objectives were to get feedback from the account executives on three broad topics, shown below in Table 2-9.

[14] Technical Assistance and Technical Incentive programs

Table 2-9: Account Executive Interview Topics

Analysis Objectives	Programs Covered	Data Collection Activities
Program Objectives, Design and Management • Their awareness and understanding of the program objectives and program components and eligibility requirements • What they understand their responsibilities to be versus the program manager and other utility support staff • Their assessment of how well they are kept informed about the program (including major changes such as the BIP trigger, Smart Meter deployment and CPP-D) and provided with adequate marketing materials and other program collateral • Their assessment of how effectively the program is designed and managed and whether they have suggestions for improvement • How they view the role of aggregators and what is their level of coordination and communication with them.	CPP-V CPP-D BIP	Account Executives
Customer Marketing, Enrollment and Communications • Their motivation for enrolling customers in the program, and what criteria they use for targeting customers (e.g., specific sectors or business types) and what methods they use for establishing eligibility • How they market the program to customers, whether their marketing approach differs by program and/or by customer type, and what they believe are the most effective methods for increasing customer enrollment • Their perceptions on how customers respond to program marketing messages, identification of what messages and materials and outreach methods are most and least effective and suggestions for improving marketing messages • How they communicate events to customers, whether that differs across customers and programs, what methods they feel are most and least effective, and whether their methods will change as enrollment increases over time (e.g., for CPP-D) • Their understanding of the integration initiative, how they market energy efficiency and Demand Response to customers, and what are the benefits and drawbacks of integrating services.	CPP-V CPP-D BIP	
Customer Satisfaction and Drivers/Barriers to Participation • Levels of customer satisfaction with the programs in general and with the specific components such as the firm service level (for BIP), bill protection (for CPP-D) and		

Analysis Objectives	Programs Covered	Data Collection Activities
capacity reservation charge (for CPP-D) • Ways to improve the programs and the Demand Response portfolio to improve customer satisfaction • Reasons for participation and for opting out (for CPP-D opt-outs) • SDG&E only: o Discussion of the process of educating customers on this new tariff o Discussion of what messages and tools were used to help them analyze their load and choose a CRC level o How many customers were they able to contact o Discussion of customer concerns.		

A KEMA senior engineer who is familiar with C&I customers facilitated the workshop and conducted the interviews. The team worked with each utility's evaluation contact to coordinate the interviews.

2.5.3 Participating Customer Research

The team conducted research with participating customers in order to obtain feedback from customers on the topics shown in Table 2-10:

Table 2-10: Participant Interview Topics

Analysis Objectives	Programs Covered	Data Collection Activities
Marketing and Communication Assessment • Their awareness and understanding of the programs in which they're currently enrolled, including event triggers, firm service level (for BIP), capacity reservation charge and bill protection (for CPP-D) • How they became aware of the program, suggestions for improving communications, and preference for receiving communications from their utility (including account representatives and aggregators) • Understanding of key program changes and expected changes in participation (e.g., the new BIP trigger, and upcoming CPP-D for SCE) • Their awareness of other Demand Response programs, barriers and drivers of participation in DR programs.	CPP-V, E CPP-D, Opt-out BIP	Online Survey In-depth Interviews

Analysis Objectives	Programs Covered	Data Collection Activities
Process Evaluation • General satisfaction with the program, reasons for dissatisfaction, suggestions for improving the program • Recall of events, actions taken during events, their ability to reduce their usage during events to avoid penalties/exposure to higher rate • Satisfaction with event notification and suggestions for improvement • Reasons for opting out of the program (for CPP-D opt-outs) and whether they might enroll in the future and why.	CPP-V, E CPP-D, Opt-out BIP	Online Surveys In-depth Interviews
Integration of DR with Energy Efficiency • Awareness of, understanding of and participation in energy efficiency programs and understanding of the benefits of participating in both DR and EE and the differences between DR and EE • Barriers to and benefits from participation in EE, suggestions for improving communication about EE programs and integrated services such as Technical Assistance and Technical Incentives.	CPP-V, E, D BIP	In-depth Interviews
CPP-D Only • Understanding of why there is a CPP rate, how customer selected their CRC • Whether they met with their AE and was the rate explained satisfactorily. • Plans to continue or drop out and what would make them more likely to stay. Understanding of bill protection. • Did you understand you were getting a discounted rate for the rest of the year and a higher rate during an event? • How important is it for you to be able to see your electricity usage the same day as opposed to the next day? • For opt-outs: Why did you opt out? If the bill protection continued for a second year, would you have stayed on the rate? What would it take to bring you back? Did you understand you were getting a discounted rate for the rest of the year and a higher rate during an event? Did you think you had to shut down completely during an event day as opposed to just reducing to a certain level?	CPP-D, Opt-out	In-depth Interviews

Our approach to participating customer surveys (including customers who opted out of CPP-D) includes 3 efforts:

- An online survey with very basic questions where we hope to get over 200 responses
- An in-depth telephone interview with more in-depth/qualitative questions where we will target 100 completes (including online survey respondents and non-respondents)
- A post-event online with very basic questions with up to 50 customers in order to capture immediate feedback on experiences during an event. However, during the summer of 2009, SDG&E held several events during the data collection period, while SCE held an event earlier during the year. In order to capture customer experiences with the events, the team included "post-event survey questions" in the initial online instruments for SDG&E and SCE. PG&E eventually held at least two events later during the summer/fall of 2009. The team conducted a subsequent post-event online survey with PG&E customers.

The team used databases of participants and CPP-D opt-outs from the utilities as the sample frame for the online survey and in-depth telephone interviews.

In order to achieve the targeted response rate, the team created a customized email invitation and employed a follow-up reminder to encourage the customer to respond. SDG&E elected to send out the email invitation directly to its customers under its own logo.

We offered participants a $10 incentive to participate in the online survey and a $25 incentive to participate in the in-depth phone interview.

2.5.4 Sample Design

Table 2-11 below shows the approximate number of CPP and BIP participating customers and CPP-D opt-outs.

Table 2-11: Estimates of Program Participants and Opt-Outs by Utility[15]

Customer Type	Utility			
	PG&E	SCE	SDG&E	Total
CPP-V	700	223		923
CPP-E			30	30
CPP-D Opt-outs			425	425
CPP-D			1326	1326
BIP	150	600	20	770
Total	850	823	1801	3474

Participation in the online survey by demand response customers was voluntary, and therefore the group of respondents who completed the survey does not represent a random sample. As an incentive for completing the survey, respondents were offered $10 gift cards to Starbucks or Amazon.com. Table 2-12 shows the disposition of demand response customers who completed the survey:

Table 2-12: Participating Customer Online Survey – Completed Responses[16]

Survey	Survey Launch Date	Survey Close Date	Sample = Unique Organizations	Surveys Completed	Complete as Percent of Sample
CPP-D SDG&E	9/9/2009	10/12/2009	108	44	41%
CPP-D Opt Out SDG&E	9/9/2009	10/12/2009	180	22	12%
CPP-E SDG&E	9/9/2009	10/12/2009	8	3	38%
BIP SDG&E	9/9/2009	10/12/2009	8	0	0%
BIP SCE	8/26/2009	9/30/2009	445	84	19%
BIP PG&E	8/31/2009	9/30/2009	92	21	23%
CPP-V SCE	8/26/2009	9/30/2009	139	24	17%
CPP-V PG&E	8/31/2009	9/30/2009	319	58	18%
Total			1,299	256	20%

[15] As of January, 2009. Numbers presented in table represent unique accounts.

[16] Total samples in each stratum represent unique organizations. We assume that every organization has at least one unique account number, but some have multiple accounts. Each survey completed represents a unique organization with the following two exceptions: Among the 44 SDG&E CPP-D surveys completed, 42 organizations are represented. One organization submitted three online survey responses for 3 unique customer accounts. Among the 58 PG&E CPP-V surveys completed, 56 organizations are represented. Two organizations submitted two online surveys each. Each of those four responses represents a unique customer account.

Overall, response rates were relatively high with six out of eight strata having completion rates exceeding 15% of the sample in each stratum. No surveys were completed by SDG&E BIP customers.

As a follow-up to the online survey, we conducted in-depth phone interviews that included customers who did not complete the online survey. We targeted 100 completes for the phone survey and completed 108. Table 2-13 shows our ideal allocation and final response rates for the participating customer telephone survey.

Table 2-13: Participating Customer In-depth Telephone Interviews[17] – Ideal Allocation of Expected Responses

Survey	Survey Launch Date	Sample= Unique Accounts	Total Target	Total Surveys Completed	Total Complete as Percent of Sample	Total Complete as Percent of Target
CPP-D SDG&E	11/23/2009	665	30	31	5%	103%
CPP-D Opt-Out	11/23/2009	280	30	34	12%	113%
CPP-E SDG&E	11/23/2009	10	5	4	40%	80%
BIP SDG&E	11/23/2009	20	5	5	25%	100%
BIP SCE	11/23/2009	489	10	12	2%	120%
BIP PG&E	11/23/2009	162	10	10	6%	100%
CPP-V SCE	n/a	n/a	n/a	n/a	n/a	n/a
CPP-V PG&E	11/23/2009	433	10	12	3%	120%
Total	n/a	2,059	100	108	5%	108%

2.6 Staff Interviews

The team conducted in-depth interviews with program staff at PG&E, SCE and SDG&E for BIP, with PG&E and SCE for CPP-V, and with SDG&E for CPP-D-E. Following are key findings and lessons learned from the interviews.

2.6.1 Base Interruptible Program

All three IOUs relied on their account executives to recruit, communicate and educate customers on the benefits of BIP. Both PG&E and SCE were actively recruiting new enrollments in BIP up to the point where the CPUC issued a Ruling capping the number of MWs allowed in the program. SDG&E was less active with their recruiting in 2008 and any new enrollment during that period was primarily due to referrals from an independent energy consultant. The IOUs also employed aggregators to help with recruiting. However, due to the high performance threshold of providing at least 1 MW in total before earning incentives, the aggregators were not

[17] Sample populations in each stratum represent unique accounts. Each survey completed represents a unique organization with at least one account.

very successful in recruiting for the program. Only PG&E has BIP enrollment via aggregators. Going forward, all recruiting by IOU's for BIP will be aimed at maintaining the current level of dispatchable load.

According to the program managers, the primary success of BIP is due to how attractive the program is to large customers. Customers are attracted to BIP because there is low risk of an event occurring matched with large incentives. Customers stand to earn sizeable monthly credits for participating in the program. However, the penalties are also substantial if during an event the customer fails to meet its commitment level. The penalty can range from $1.35 per kW up to $10 per kW for load not curtailed according to the commitment level, depending on the IOU and program option. To date, the IOUs have rarely called an event for BIP. PG&E held a test event in 2008 and SCE had an event in 2006. Both IOUs boast high performance with the majority of customers meeting their commitment.

According to program managers, the high-level of performance may change with the CPUC/CAISO's introduction of the Pre-Stage 1 trigger. With the new trigger, there is a possibility there will be more frequent events (increased risk.) Program managers are concerned that too many events may impact customer retention. So far, all three IOUs have called multiple events for the critical peak pricing program during the summer of 2009 and both PG&E and SCE called at least one BIP event. SDG&E did not call a BIP event in 2009. In November, program managers may get their first indication of the potential outcome due to increase in event occurrences. At that time, customers will undergo an annual review of their yearlong commitment to BIP. This is when customers can make changes to their FSL or reassess whether to continue with the program.

Following are brief summaries of the program management and marketing for each IOU.

2.6.1.1 PG&E

Program Management

PG&E's BIP program team consists of one program manager with access to a support network of 5-8 analysts and billing clerks. The program manager is responsible for maintaining program enrollment and validating customer eligibility. She also oversees (working with a support team) that customers have the right equipment needed to participate. Once she receives notice to enroll a customer, she has an analyst validate whether the customer's load will meet the minimum curtailment requirements. She then confirms or schedules the customer to receive an interval meter and checks if the customer is receiving information via InterAct (online tool.) The

program manager has support in Load Energy Data Services where they upload the customer's load data for viewing and tracking in InterAct during an event. Customers are able to track their performance during an event in real-time or access load data the day after.

The program manager has regular communications with the account executives who have customers enrolled in the program to determine the customers' status, concerns about billing, etc., and to get a heads up on any customer retention issues. She holds monthly meetings and make regular presentations to keep the account executive inform of program changes and to assess their needs.

PG&E relies on InterAct to send an email notification to the customer contact as to what action they need to take. The challenge with relying on emails is that there is usually only one customer contact name in the system and the customer must be around to receive the notification. As a back up, PG&E also rely on the account executives to contact customers but this is not 100%. PG&E conducts monthly feedback test to ensure the system is working properly. PG&E stresses it is not their goal to penalize the customer so if the customer can demonstrate that they did not receive the notification due to system failure, PG&E may be inclined to reduce or eliminate the penalty. However, PG&E will not forego the penalty due to not reading the email notice.

Marketing and Communications

The account executives are the primary point of contact for outreach and education. They are responsible for communicating with customers about the program and for assisting them on how to achieve their commitment level, etc. The AEs rely on the program manager to provide them with information and education regarding the program details.

To date, there has been very little to no marketing of BIP other than developing fact sheets for account executives to communicate program features and options to the customers. PG&E did provide a Golden Orb Award for customer performance during the 2008 event. According to PG&E, the award recipients where very enthusiastic about receiving the Orb, and provided their own PR via press releases, etc.

PG&E was in the process of developing a marketing and outreach effort with their marketing department in 2009. The marketing was to include brochures, some modifications to the web site, working with Account Managers, and trying to segment the market to tailor it to the appropriate target audience.

PG&E was also looking to build on one of their key success factors, namely, providing customers with customized reports on how they performed during an event. PG&E provided customers with Information that included their monthly incentive, and whether they met their commitment level and an explanation for a penalty if it occurs and how the calculation was done. PG&E will continue this effort as part of their outreach and customer retention strategy.

2.6.1.2 SCE

Program Management

SCE's program management structure is similar to PG&E's in that there is one program manager with access to a support team. The support team provides similar duties such as scheduling equipment installation, analyzing load data and uploading load data for viewing.

The SCE program manager is responsible for training the account executives on the BIP program and to keep them up-to-date on program status. Since all of SCE's 100-plus account executives are responsible for marketing the programs, it is difficult to hold frequent meetings. The SCE program manager participates in the annual Demand Response Rollout event at the beginning of each year to 'roll-out' demand response program changes to the entire Business Customer Division (account executives). Following this training event are "road shows" at account executive segment meetings. She may work with BCD to send out email notifications to get information out quickly.

In 2006, SCE installed remote terminal units (RTU) for customers to use during events. The RTU capture load data so SCE's grid control team could send signals and have visibility of the customer's load during events. The RTU provides a signal when the event is called and a countdown mechanism on a LCD panel to let customers know how much time they have to curtail their load. It also provides a signal when the event is over. The LCD panel provides the customer a read out on how much load they are reducing in real-time. The customer can only view the usage information on the LCD screen. To be able to access the load data for any analysis, the customer must have their own Energy Management System (EMS) or they can access this information via SCE's proprietary software, SCE EnergyManager® and SCE Cost Manager®. They would have to purchase access on a monthly basis.

SCE's internal data acquisition system captures the integral reads and automatically calculates this on the bill during the billing period. The system can calculate the bill in increments if the customer was unable to get the load off in the 15 or 30 minutes.

SCE requires customers to have a dedicated phone line in an area where the phone can be answered 24 hours a day, 365 days a year. When SCE's outage notification communication system (ONC) sends a signal, it will automatically call the phone number and SCE expects someone to answer. This could be through the RTU SCE provides since it has a built in modem that receives the ONC signal alerting customers of the event. The RTU is installed via a dedicated phone line (landline or wireless.) SCE tests the ONC every month.

In 2007-2008, SCE added a 15-minute notification option (in addition to the 30 minute option.) So far, there has been very little uptake on this option due to the difficulty for customers to response with such short notice. SCE's Option A (30 minute) is still the most popular option.

Marketing and Communications

SCE conducted focus groups to determine why customers were not signing up for demand response and how they can communicate the benefits of the BIP program that would be used in potential marketing materials. They also used the focus groups to gain feedback on some of the information they currently provide and feedback on the account executives. The research identified some areas for improvement with regards to how to communicate with customers and how to improve some of their materials to make them simpler. They learned that some of the materials used like their facts sheets had language that was not user friendly. SCE is using this information to look at how they can modify the language for specific segments.

Some success factors identified by the SCE program manager include:

- Successful participation is if a customer or a rep work together and have a good plan in place, so when we call an event, (because they are so infrequent) they know exactly what to do. Or, if the customer has an internal Energy Management System that's fairly automated and when someone is in charge of responding to an event. The program also has a huge stick, $10 per KW hour for load above the FSL.

- Historically, the account representatives who have the biggest percentage of customers on DR are those who have significant one on one contact with their customers. These account representatives are able to help their customers with energy usage analyses, showing them what they can do internally to reduce load. SCE would like to make this close customer interaction an ongoing standard. However, the rollout of default CPP in SCE territory will make it more difficult for account representatives to have close relationships with their customers.

2.6.1.3 SDG&E

Program Management

SDG&E's program management structure is somewhat different from PG&E and SCE. SDG&E program managers may manage up to three demand response programs and has one program assistant that may support other programs. The program manager interacts with the account executives and the customer. The program assistant provides operational support such as validating eligibility, uploading data to the online tool.

SDG&E uses KWickview tool to send notifications through email and text messages to cell phones. SDG&E also call each customer. SDG&E's KWickview is available for customers to monitor their performance during an event and where SDG&E can track what percent of the customers are using the system.

Marketing and Communications

SDG&E program management recently underwent reorganization where SDG&E has incorporated a customer segment approach where the program managers are the "product owners "and the account executives are the "segment owners." This arrangement is similar to PG&E's portfolio approach and the recent changes in SCE's energy efficiency portfolio. All three IOUs see this approach as more efficient in that the account executives can deliver a portfolio of programs (i.e., EE, DR) that are targeted to the customer needs. This approach minimizes customer confusion from having to filter through multiple program offerings and helps toward meeting the CPUC's goal of integration.

SDG&E marketing department assists with developing collateral material and developing messages. Program managers collaborate with California Center for Sustainable Energy (CCSE) for marketing and outreach via workshops and displaying collateral. The program manager provides marketing materials to account executives and attends ad hoc meetings and work with the account executives one-on-one as needed.

Key factors the SDG&E program manager attribute to the success of the program include:

- Program consistency; the program has remained unchanged over time
- Very few events over time
- Capacity payment or incentive

- The availability of the KWickview tool
- Monthly communication about the incentive to remind them of the value
- Good program operations – the customer must understand what they are signing up for and know how to react when notified.

2.6.2 Critical Peak Pricing

As mentioned earlier, the CPUC has mandated that the IOUs introduce a default critical peak pricing program (CPP-D) to nonresidential customers with annual loads of 20W or higher. SDG&E was first to rollout their CPP-D in 2008. SCE rolled out their CPP-D program in October 2009 to commercial customers with demand of 200 kW and above and PG&E will roll their program out in 2010.

The following sections summarize the program management, operations, and marketing and success factors for PG&E and SCE's CPP-V. It also documents SDG&E's rollout for CPP-D in 2008.

2.6.2.1 PG&E CPP-V

Program Management

The current program management structure consists of one program manager who is basically the in-house person who does everything. There is one clerical person to help pull data, along with access to resources in billing and marketing. The Service and Sales organization or account executives are the implementation arm of the program and is the face of the program to the customer.

PG&E's Service and Sales organization re-organized their personnel early last year. As such, the CPP-V program did not get a lot of support from them due to a lack of available manpower. The reorganization resulted in most of the seasoned account executives leaving at that point and new less experience account executives coming in. To bring the new account executives up to speed the program manager conducts webinars and training classes. Just recently PG&E added a new position, a Service and Sales liaison who has the responsibility to learn about the program on behalf of the AEs through training and then communicate this information back to the AEs. The program manager works with this new position to make sure updates to programs are placed into the Service and Sales bulletins and presented at their staff meetings.

The program manager also has meet-and-greet meetings at least once a month with account executives, rotating by area each month. The program manager uses this process as a way to get the account executives' impression of demand response, learn about their expectations, and what resources or support they need to help them help the customer.

Currently, PG&E does not have any internal performance goal/credits for demand response similar to what they have for energy efficiency. As such, the demand response program managers have less influence with encouraging account executives as compared to customer energy efficiency. PG&E is currently looking into changing this going forward.

According to the PG&E program manager, enrollment in CPP-V has gone down in 2008-2009 versus 2007. However, many of those enrollments are moving to other DR Programs. The most frequent reason customers give for opting out of CPP-V is that they cannot afford to be on the program due to the economy. Their company may be shutting down, folding or closing locations. Reasons customers give for staying on the program vary. It could be because of their desire to go green; or they may be testing the waters to see if they can handle it if there is an event

PG&E does not view a customer electing to opt-out of CPP-V and enrolling into one of the other demand response programs as a lost since the customer was retained as a demand response customer. In 2008, many of the customers opting-out of CPP-V moved to the AMP program which is an aggregator demand response program.

According to the PG&E program manager, events are triggered first by the temperature, when it gets in the 90's and then when reserves are low (i.e., load starts to reach peak capacity around 43,000 MW.) PG&E uses InterAct to notify customers of an event. InterAct is web-based, however, customers may receive email or pager notification, and may also receive a phone call.

Marketing and Communications

PG&E did not conduct marketing outreach using other media such as direct mail, newsletters or ads but they did exhibit at trade shows and participated in workshops in 2008. PG&E does promote CPP-V via its website and recently enabled online customer enrollment via the web. Prior to June 2008, PG&E was using paper contracts however, with the arrival of online enrollment; paper contracts are no longer accepted.

According to the program manager, following are key factors that contribute to program success or present challenges:

- One-on-one with a decision-maker is the best marketing/recruiting approach versus trade shows and exhibits, seminars and workshops. "If you can get something in the hands of the decision makers whether it's a letter or a brochure that would be helpful."

- Not making it complicated. Making it easy for the customers to understand. "When we have an event it's not the CEO that sits there and says I'm going to shut this off and this off, it's the technician, it's a maintenance person, and you just have to not make it complicated."

- Responding to a customer immediately when a problem surfaces. Always follow up. "Always making sure they know you are taking care of them."

- "When it comes to recruiting, the relationship the account executive has with the company makes all the difference."

- On-line enrollment helped improved the verification process and quality control. "Having the information online informs you right away if they are eligible for the program or not." It eliminates the quality control issue of having someone in a contract for a few days, only to find out later they would have to change their rate schedule.

- Giving the customer too much information can be confusing and a barrier to making a decision.

- Website presentation is very important. "I'm very impressed with SCE's web site. I think our web site is coming along, but there are a lot of bells and whistles."

Due to the scheduled roll-out of CPP-D in 2010 and also due to the current PG&E CPP-V program manager not being actively involved in planning for the roll-out of CPP-D; we could not gain any insights from the program manager on their plans and/or activity at the time of the interview.

2.6.2.2 SCE

Program Management

SCE's goal for the CPP-V program in 2008 and 2009 was to retain the existing 32 MW in the program and to increase enrollment in order to reach 50 MW as the launch CPP-D. It is SCE's

objective to provide these customers in the beginning of the second quarter of 2010 with additional information with the hope of retaining them in the CPP-D program.

SCE's program manager provides account executives with ongoing support, training, marketing and communications to help them be successful in recruiting and retaining customers. This includes:

- Conducting the Business Customer Division rollout on DR programs in the first quarter annually
- Providing DR road shows where the program manager goes to segment staff/team meetings with maybe 10 or 20 Accounts Execs., to discuss the programs and answer questions and identify what other tools and resources are needed.
- Providing one-on-one training, for new account executives where Customer Service Reps go through the web-based training and show them the rate change form and how to fill it out.
- Making presentations available on their website so they have additional material to go over with their customers.
- Sending out a BCD Broadcast to announce program changes that come up or to alert them about the marketing campaign.

SCE CPP-V customers use the SCE EnergyManager® and/or SCE Cost Manager® to manage/monitor their usage during an event SCE uses an internal threshold of 15,000 BTU heat rate as the trigger for CPP events. SCE uses the Owens II outage notification system to notify customers of the event using phone, fax, e-mail or pager if they have an alphanumeric pager. SCE also uses communicating interval meters to collect interval data.

Marketing and Communications

In 2008, the SCE program managers conducted an analysis among the TOU-GS-33 and TOU-8 customers that identified potential program benefiters. This information was used in a marketing campaign and resulted in adding more than 100 new service accounts to CPP. This was a 349% increase in enrollment in 2008 vs. 2007. The success was due to the marketing campaign, along with well-informed account executives due to the rollout and road shows, all coming together. Due to the great success, SCE planned to do the same thing in 2009.

Other practices the SCE program manager viewed as adding to the successful management and operations of the CPP-V program included:

- Increased internal tracking this year versus the previous year with performance tied to account executives goals; tracking also helps to hold everyone accountable for their role.
- Having a help desk with a well trained customer service rep that can answer a majority of customer account manager, or account executive's questions
- Having quality control for completing rate forms for CPP with performance on how many rate forms are returned, tied to employee performance evaluations. "We have just so many days, unless there is an exception. We have checklists and flowcharts and things they have to go through that check list for every rate change. We actually do that for all our DR programs. Not specific to CPP. That's how we run our DR programs."

As SCE prepared for the switch to CPP-D, SCE planned to keep most of the program operations support staff since the staff also provided support for other DR programs. SCE also anticipated strategies for keeping the opt-out rate down. They planned a multiphase approach for notifying the customers of the change: First, a notification letter to customers once SCE received a decision on their General Rate Case explaining program changes per the decision. Second, an educational campaign to let customers know about the new CPP, encouraging them to remain on the rate and that SCE would be providing an analysis for them to determine if it will be the best rate for them in 2010, or if another alternative rate such as an RTP type rate would be better.

2.6.2.3 SDG&E

Program Management

SDG&E currently has two critical peak pricing tariffs; CPP-D introduced in 2008 by mandate from the CPUC (SDG&E rolled-out first because their rate case was decided first.) CPP-E was offered in 2005 for customers who could respond more quickly for emergency purposes (initially for customers >300 kW, but now down to 20 kW in order to provide another default rate for CPP-D opt-outs.)

The CPP programs have one program manager and one program assistant that tend to have the same working relationship with support staff and the account executives as the BIP program manager (see above.) Account executives use the rate analysis tool to assist customers with determining if they will benefit from staying on the rate. According to the staff interviews, the Account Executives had direct contact with all CPP-D customers and ran the analyses for them.

The below provides more details on program features for each rate.

CPP-E

- CPP-E is similar to BIP with the 30-minute notification; however the risks associated with CPP-E are different where CPP-E customers get a commodity discount all year, but the rates during the alert period is quite substantial - more than ten times the normal price.

- With CPP-E, the customer just pays a higher price for what they are using. They are not stating they can get down to a specific level as with the FSL or CRC.

- CPP-E event criteria vary from CPP-D where CPP-E is callable year around, any day, any time, with a limit of 80 hours annually, 4 events a month, so many hours a month. CPP-D is seasonal and limited to weekdays. CPP-E is also limited to 15 events per year versus 18 for CPP-D. 10 accounts

CPP-D

- Default all customers, and give option to move to a different rate. Goal is to capture higher participation in DR.
- First wave of default customers included customers with IDR meters with communications, this includes all customers 200 KW and above (including customers participating in CPP-V and Demand Bidding); in 2009, adding customers 20 KW and above as their smart meters are installed.
- Program features includes a capacity reservation charge (CRC). Capacity reservation charge allows customer to reserve a specific amount of energy through the payment of a fixed monthly charge that is not subject to the critical pricing. The default CRC is set at 50% for customers who do not specify a CRC.
- SDG&E offers a tool online that customers can use for “what-ifs” scenarios and compare various CRCs with potential number of events – customers must have twelve full months of interval data in the tool.
- Customer notification process is the same as BIP using KWickview, except no customer phone calls (no outbound dialers at this time – maybe in the future). Unlike BIP, customers on CPP do not have access to real-time data during the event and can only access yesterday’s data in KWickview, along with their CRC
- Customers who opt-out most go back to their default TOU rate which has a higher commodity rate year-round. In 2008-2009 about 25% opted-out.
- Customers also get twelve months of bill protection. At the end of their first twelve months, SDG&E compares what customers actually paid on CPP-D to their otherwise

applicable rate – SDG&E refunds the difference if higher. The purpose for bill protection was to give customers the opportunity to understand and become familiar with demand response and to react to an event to gain experience. However, by the time SDG&E called an event for CPP-D, the bill protection period elapse for most customers. At the time of the interview, SDG&E forecasted that approximately 400 out of 1400 customers would probably get a refund due to bill protection.

2.6.2.3.1 CPP Rollout Lessons Learned

Tariff Design

CPP-D did not fit very well within SDG&E's broader Demand Response portfolio. The tariff overlapped with many existing programs. Customer eligibility for the tariff was not straightforward and required a lot of time and effort to determine.

The rate schedule was very complicated and hard to communicate to internal staff customers and difficult to roll-out and implement internally.

The rate was designed at the meter/account level and was not particularly customer friendly. For example, customers with multiple accounts could have some accounts default and others not. Also, the rate was tied to meter read dates associated with each account, meaning one customer could have many different default dates associated with their many accounts.

Lessons learned:

- Better integrate new DR rates into the portfolio (or redesign portfolio) so the tariffs are easy for customers to understand
- Ensure that the parameters for customer eligibility are clear and that eligibility is easy to determine using existing utility data
- Bear in mind how the rate will impact customers, not just accounts, and consider conducting customer research on the rate design

Schedule

SDG&E's roll-out of the CPP-D rate was adversely affected by the Commission's delay in issuing a final decision. The decision was issued in April 2008, and customers were defaulted beginning on May 1, 2008. SDG&E began planning for the roll-out in December 2007, first

training and planning internally (December 2007 – February 2008), and later educating customers (around March 2008).

SDG&E gave customers a window of time to both opt-out of the rate and to set their capacity reservation charge (CRC) – 25 and 45 days, respectively. The event season started and events could be called before CRCs and opt-out windows had passed for customers, and most customers were re-billed.

Lessons learned:

- Event season should begin after the window for setting the CRC and opting out has closed so if you call an event, all the customers have the correct info in place, so no rebilling (ideally get info by Jan 1 for May 1 event season)
- Sync up deadlines – CRC election and opt-out
- Begin notifying customers within 6 months of event season

Internal Planning and Processing

Representatives from SDG&E reported that determining customer eligibility was not straightforward as it involved multiple factors such as the customer size, type of meter and length of time the meter had been installed. Certain unexpected issues had to be addressed as they arose, such as customers with multiple accounts who chose to adopt the rate for some of their accounts and not others. As a result, new processes had to be worked out that required coordination across various departments. Due to the tight implementation timeline, however, some processes had to be performed manually until there was time to develop more systematic processes.

Lessons learned:

- Allow for adequate internal planning and customer research time (at least one year)
- Automate internal customer processing, or at least make the forms very easy to data enter
- Use online customer enrollment

- Determine the rules and process for establishing customer eligibility ahead of time, addressing major issues such as customers with multiple accounts and allowing enough time to develop a final eligible customer list before the roll-out
- Develop procedures for continuously updating the customer eligibility list
- Establish clear roles and responsibilities internally with respect to the roll-out
- Develop coordination plans for working across internal departments and combining databases
- Develop internal program/rate policies and procedures well in advance of the roll-out
- Create an eligible customer list, don't keep changing it and adding to it

Customer Outreach

The main approach to educating customers about the default tariff was direct communication by SDG&E Account Executives. SDG&E Demand Response program staff also held workshops directly with customers and trade associations, developed collateral and trained Account Executives on the details of the tariff to assist them with customer outreach.

Account Executives that worked with the larger assigned customers (with between 25 and 80 customers each) were much more successful in their outreach than those AEs that had smaller customers (with 150 customers each). Account Executives struggled to develop a clear and consistent message to deliver to their customers due to the complicated nature of the tariff, the short time period for educating customers, evolving customer eligibility, and lack of internal policies and procedures. As a result, Account Executives were very hands-on with their customers, meeting face-to-face with many of them and staying in touch regularly via phone and email with updates and new information.

Account Executives were able to easily understand the technical components of the rate and how it would impact customers (many AEs are from the billing and rate departments.)

Much of the customer outreach time was spent providing assistance running the rate analysis comparison tool (addressed below). With the short timeframe, complication of the rate and changing eligibility, AEs were unable to spend much, if any time educating and providing tools and assistance to customers regarding how they could curtail during events.

Lessons learned:

- Plan for at least 6 months to communicate with customers
- For large customers, the hands-on AE approach worked well, but for mass markets will have to have longer lead time and develop easier to understand customer communications
- Include suggestions in customer communications education on what strategies customers may use during a DR event
- Include an explicit line item for marketing and outreach in the budget, because even though CPP-D is a tariff, customer outreach is paramount to successful implementation and customer retention on the tariff

Online Tools

The online tools that were made available to customers were inflexible and required a lot of assistance from Account Executives.

- Most large customers had not previously used the required customer interface (My Account) and had to be trained
- Only one user name was allowed per account, which was either difficult or impossible to change, restricting access to only one individual (the first person to sign up to My Account– whether that was a month or several years ago)
- Only one account could be viewed at a time, even though many large customers had hundreds of accounts
- The interval data viewing tool (KWickview) was not available live during events, allowing for viewing only of historic data
- A minimum of twelve months of prior customer data was required

Lessons learned:

- Allow tool to cover multiple customer accounts

- Develop benchmarks by customer type/segment so customers can view likely scenarios for their type
- Allow for extrapolation of prior data so customers with less than twelve months of data can still benefit from the tools, even if only to a limited extent
- Make KWickview/interval data available to view live during an event

2.7 Account Executive Interviews

In general, AEs indicate that customers appear to be satisfied with the CPP and BIP programs. Customers are satisfied with the following aspects:

- Financial benefits – Customers are satisfied when they are "making money," and will often switch to other programs if they are more financially lucrative.
- Achieving energy savings – Customers are also rewarded when they discover that they can find ways to successfully drop load. Some customers say they have learned some new things and "can actually do this" and save money.

Overall, the key finding is that account representatives need more assistance in their efforts to assist customers with developing load reduction plans, and AEs need further education and technical support in this area.

2.7.1 Program Infrastructure

Account Executives work with their customers throughout the year to address their needs. How this happens varies depending on the customer. Some customers need a lot of attention, depending what is occurring with their account (e.g. if they are working on a new construction or retrofit project, considering being on a different rate, had reliability issues recently, etc). If issues come up, then the rep may visit the customer a couple times in a single week. If the customer has no issues, then the rep may only follow up from time to time via phone or email.

AEs are responsible for communicating to customers the array of services that the utility can offer to them, including energy efficiency and demand response programs. More experienced reps often mention that they "just know" which customers to try to market demand response programs to, because they have been working together for so long. It turns out that marketing DR programs requires time for the customers to digest the information being presented, before final decisions are made to participate. AEs gauge when customers show interest when they

first hear about demand response, and whether they are open to considering strategies and ways to reduce energy load in their facility during the peak periods.

AEs stress the importance of their "relationship with the customer." They do not want to jeopardize the relationship by pushing a DR or EE program too hard. When marketing programs, they focus on selling programs that will truly benefit the customer (vs. the utility, for example). If they sell something and it doesn't work out for the customer, it "always comes back" to them.

2.7.2 Marketing and Outreach Efforts

To effectively market DR programs, IOU AEs often need to first educate customers about the reasons for these programs. They have to explain the general concept of demand response. One key approach is to share graphs and other visual demonstration of peak periods (either as cost or energy demand) that occur through the year. AEs have found the following specific items to be particularly useful:

- Graph of the California electricity load through the year, typical summer. E.g. along with explanation of approximately 50 hours at the high capacity (peak demand).
- Time of use (TOU) chart
- Tariff information about winter and summer rates.
- Program fact sheets and fliers
- Summary sheet of DR programs
- Case studies for market segments

AEs find that this creates a good segue into brainstorming about ways the customer can reduce demand during peak periods.

> For instance, to market the DR programs, PG&E AEs utilize both the program brochures, and the rate analysis tools available. Almost all of PG&E AEs said they utilize the CPP Analysis Tool to compare different scenarios for CPP participation (e.g. 10%, 20%, 30% levels), based on the previous load profile of their customers.
>
> PG&E AEs mention that there is a wall of marketing collaterals available for them to pick up materials they need, in addition to the DR website. The summary sheet of DR programs with the matrix of program attributes appears to be extremely useful. One AE mentioned that the DR website has "evolved quite well" with a nice layout and thumbnails of the collateral materials to make it easier to locate what you need. Overall,

the materials appear to be working well; however, there are requests for more market segment specific DR checklists. One account rep specifically requested that one be developed for school districts.

Of all the materials available to them, however, AEs believe that the monthly incentive analysis is the most useful to demonstrate how the program will benefit the customer. While there is a CPP Analysis Tool, there does not appear to be a similar tool for BIP, but AEs mention that they can calculate these themselves, by using a rule of thumb.

SCE's AEs had a recent CPP Enrollment Campaign where AEs were given lists of "structural benefiters," or customer accounts that would benefit from participating in CPP, even if they did nothing to respond to DR events.

SDG&E's AEs tend to rely more on face-to-face engagement with the customers. However, this will tend to vary by customer type (e.g. the national chain accounts AE has limited opportunities for face-to-face interaction.) The AEs also believe the web-based communications is one of the most efficient manners to communicate with customers.

Effective Messages and Themes for Recruiting Participation to DR programs

Customers who participate in CPP do not appear to be significantly motivated by the financial benefits, because most AEs indicate that customers only save a small amount (e.g. $2000/year). For customers who can shift a significant amount of load, AEs generally steer them towards BIP which has higher incentive levels (e.g. one production facility saved over $100,000). AEs do mention the following themes and messages they have found to be effective in recruiting customers:

- **Provide examples of successful customers** (e.g. similar customer types, peers, competitors). A couple AEs found that high tech accounts were motivated when they heard about their peers successfully participating in DR programs. The AEs thought that the corporate culture of "techie" and environmentally minded employees supported their participation in DR. The timber mills in Northern California were also motivated when they hear about other mills saving money through DR. This is where additional case studies can help to promote DR programs and ways for specific customer segments to

reduce load. When customers say they can't curtail, AEs have found it effective to provide examples of other similar customers who have.[18]

- **Frame participation in DR as preparing for CPP-Default (Peak Day Pricing).** Some AEs have been communicating that the utilities are moving in the direction of "peak day pricing" and that participating in DR programs is a good way to prepare for this inevitable change. Some AEs think that the DR program incentives can help make the transition easier for some customers.
- **Promote corporate good stewardship.** AEs mentioned that once they explain grid constraints and the potential for rolling blackouts, they sometimes find it effective to encourage customers to be "good corporate citizens" and to do their part. This is only effective to recruit customers who will save a small amount of money, and is not effective if the customer will not save any money in the program.
- **Emphasize that customers first look to reduce "non-essential load**." Some AEs found that it was less intimidating to customers to consider "non-essential" loads, as a starting point.

Although some customers are motivated by free publicity, this varies significantly depending on the specific customer. Industrial facilities generally do not want publicity, while entities that serve consumers or the general public (e.g. water agencies, school districts and tech companies) do seem to be motivated by utility recognition of their efforts.

Customer Attributes for DR participation

Interviews with AEs indicate that customer attitude and thresholds for risk are key attributes when assessing if the customer will be open to participating in DR programs. When deciding how hard to push a DR program, AEs gauge the level of risk that customers are willing to take and the amount of change they are willing to make (including shifting both equipment operations and people).

The following types of customers seem to be more successful in DR programs:

- **Customers with high load factor.** Customers with high load factors can see significant financial benefits on the CPP rate. For facilities that are required to operate 24-7 (e.g. data centers) dropping load during DR events can present significant challenges. These customers are usually unable to shift load to nights or weekends because their energy demand is relatively constant with little or no down time. As such, facilities are exposed to higher CPP event rates if there are numerous events called in a given year. However,

[18] Right now the ability of account reps to provide this information appears to be mostly correlated to years of experience working with the same customer segment.

the rate savings these customers receive during non-event days typically offset higher rates paid during events, even when load cannot be shed.

- **Customers with batch processes.** Some industrial customers have more flexibility with their production schedule during these economic times. For instance, rock crushing operations can build up extra inventory, so that a DR event will not impact their production schedule. Similarly, another manufacturer of plastic vegetable totes have found that they can build inventory instead of "just in time" approach, so they can now afford to shut down for DR events. For timber mills, some operations (such as de-barking logs) can be completed prior to the peak period when notified.
- **Customers with standby generators.** Several AEs mentioned that customers with their own standby generators can participate in DR programs. Although this raises issues related to air quality concerns, for the purposes of grid reliability, this is an effective strategy to respond to DR events. Timber mills, water agencies, and some commercial/industrial operations have standby generators. When evaluating whether to participate in a DR program, however, customers must factor in additional standby generator operating costs.

AEs stress that multiple considerations (e.g. staff time, production schedule, costs) must be evaluated to identify strategies to reduce load during peak periods, in addition to technical potential. For instance, staffing considerations are found to be extremely important, as companies do not want their staff to be idle during a DR event. Therefore, plans for responding to events must include strategies for re-organizing employee work, in addition to the technical strategies.

As economy slows down, some production changes mean there is more flexibility to shift load when plants are not running "full out." AEs should make sure to check in with customers with this specific probing question, as some facilities that previously could not curtail load may not be more willing to consider opportunities, especially if there are some financial incentives, albeit small.

Customer Barriers to DR Participation

According to AEs, a primary barrier to customer participation in DR programs is the "structural barrier ". Most customers who resist participating in DR programs cite difficulties with dropping load. Following are examples of customer types that seem to find dropping load to be especially challenging or problematic:

- **Hospitals.** Although most hospitals have standby generators, the facility personnel tend to be resistant to participating in DR programs, since events can be called at any time. For example, they are concerned that they may be in the middle of surgery and would have to hope that their stand-by generator works. They have expressed concerns about

shutting down parts of the hospital and contributing to a feeling that "something is not right."

- **Property Management and Offices.** Property managers also express concerns about DR participation due to tenant contracts and risking tenant complaints. Furthermore, office buildings need to drop a large percent of peak load to successfully participate. Some buildings are willing to play with the idea, but amount available to curtail appears small and "hardly worth their efforts." Furthermore, dealing with myriad tenants can also be a headache.
- **Food Processors.** Some food processing plants have a short season to complete their work, and do not want to risk their production. One tomato processing plant was specifically mentioned as not willing to participate in DR programs. Food processors may consider reducing office and lighting load, but this is generally only a small portion of their total consumption. Some opportunities may exist to pre-cool and drift refrigeration systems during events, but AEs need more technical support to evaluate these types of opportunities with customers.
- **Oil Refineries.** One rep mentioned that an oil refinery was not interested in DR because they have to produce gasoline around the clock, and the incentives are much too small for them to consider opportunities to shift load.
- **Data Centers and Telecommunications.** These facilities are also required to be "on" around the clock. There are specific constraints for telecommunications associated with ensuring that the 911 system is available for emergencies.

AEs state that customers mention that not having an energy management system (EMS) makes it more difficult to participate, especially for multiple sites, because the facility manager would need to go to each building to adjust the thermostat and other facility settings. For instance, one customer had 40 separate buildings, and it would be challenging to manually adjust all 40 sites. There are a substantial number of customers who joined DR programs without an EMS, but most of them have been able to convince management to invest in an EMS for their facilities. DR is not believed to be a key driver for this decision, though.

Otherwise, some customers simply do not wish to participate. They think the impact on their facility is too great for the incentive, and not worth the effort. To overcome this mentality, AEs need to work hard to show customers how easy it can be. One way AEs approach this is to provide concrete examples of similar facilities that have been successful with DR. According to the AEs, with peak pricing coming along, it seems to be a good time to get them on a program that provides incentive to make that transition easier.

SDG&E AEs cited customers with lack of access to cash flow for investing in EE and DR efforts as a continuing large barrier to participation and also impacts the customer's ability to reduce demand. The AEs are trying to address this barrier by referring customers to the TA/TI programs.

SDG&E AEs also pointed out that a barrier in the integration of EE and DR is that if a customer heavily invests in EE they might lower their demand and fall into a different eligibility threshold which might disallow them from participating in certain programs. This seems like a larger issue for BIP because the CPP-D rate recently increased its eligibility threshold from customers with an annual load of 200 kW to 20 kW.

For PG&E and SCE AEs, the biggest barrier to customer participation in DR is related to concerns that curtailing load would impact the customers' core business functions. To engage customers on DR strategies, AEs need to first fully understand what these core business functions are and then figure out what load reduction strategies will work within those constraints.

Other barriers cited by AEs included:

- Participation for customers without an EMS system is often a hassle and incentives are not enough to justify staff going to each building and adjusting thermostat to raise settings (e.g. $50, $100 a month is not enough incentive for the hours required of technicians).
- Some customers are already financially struggling, and have already identified opportunities to reduce as much energy use as possible (e.g. already running buildings at 76 degrees all the time).
- Customers are simply not eligible (e.g. direct access, solar net metering or Optional Binding Mandatory Curtailment (OBMC) customers).

Notification of BIP Trigger Changes

In general, the AEs said that the process to notify customers that the BIP trigger had changed to include a "pre-stage 1" trigger worked well. AEs from all IOUs notified participating BIP customers via formal letters, emails and follow up phone calls. Because AEs generally had a close relationship with these large accounts, the message was effectively conveyed.

The only confusing aspect was that the definition of "pre-stage 1" was a little ambiguous. This is related to language about the utilities possibly calling an event "even before Stage 1." AEs seemed to understand and be able to communicate that their utility may be able to reduce enough load through other programs, without BIP, but this may not always be the case.

Most customers did not have many questions about the trigger change. According to PG&E AEs, only a few customers dropped out due to the new trigger. Since BIP participation has been a "moneymaker," customers were willing to "wait and see" before deciding whether to opt

out. Some PG&E AEs provided their customers with more information, such as the historic number of events that had been called, and used the CEC report on resource outlook for the following summer to assess the likelihood of additional events.

2.7.3 Customer Ability to Respond to DR Events

For all three utilities, event notifications are automated processes. Most AEs will follow up with customers by phone or email as an additional reminder for them to curtail. Customers select the method by which they are notified, and the system appears to be working well.

AEs are found to play an important role in assisting customers to identify opportunities to reduce load for DR events. In most cases, it is not enough to sign the customer up to the program, and then hope they will know what to do when an event is called. One rep mentioned that there is too much emphasis on just getting the initial sign-up, and that more education is needed to assist customers with curtailment efforts.

The following are some effective approaches that AEs use to assist customers:

- **Brainstorm with the facility supervisor.** AEs mention that they spend a lot of time asking key questions beginning with "what non-essential load can you drop during an event?" "If you have advanced warning, what can you shut off?" "Can you turn up the thermostat a couple degrees?" "Can you turn off the perimeter lighting or the water fountain?" Successful AEs talk through what the customer can do and provide examples.
- **Suggest measures and approaches based on the rep's experience with other customers.** AEs generally discuss ways for customers to reduce load, such as reducing fan speeds, turning off a water fountain, cutting down perimeter lighting, to name a few. Generally it is important to focus on items that will not impact business productivity. More experienced AEs and those who are more focused on DR can also suggest innovative ideas, such as creating cool zones at a customer site so that the rest of the facility can increase the set point. Successful AEs identify realistic strategies that can preserve some comfort for their customers, such as pre-cooling a facility just prior to the event period.
- **TA/TI program.** SDG&E and SCE representatives found this program to be very effective in assisting customers identify opportunities and strategies to reduce load. They also found this to be an effective strategy to recruit participation in DR programs. AEs mention that once they "sold the DR program," the customer may mention specific technologies they need to participate in the program, and TA/TI can provide that support. The PG&E program has been stalled for lack of funds, and PG&E AEs have not utilized it for their customers.

Additional approaches used by PG&E include:

- **PG&E AEs Use InterAct to assess effectiveness of different curtailment actions.** Customers can try different things like shutting down specific lighting, or turning up the air-conditioning set points during the peak period, and the utilize InterAct the next day to view their usage for the previous test day. AEs can recommend measures, but InterAct shows customers how much load different measures can reduce during an event.
- **Promote other PG&E IOU programs.** As part of their normal duties, AEs promote other programs which may touch upon demand response, such as retro-commissioning program. One rep mentioned the technical solutions person at PG&E who can come out to assist the customer.

Although AEs have a lot of responsibilities, more training for new reps may be needed to quickly get them up the learning curve on customer strategies to drop load. SCE account reps already have the DR Collaboration Group that provides support and best practices, with meetings held once a month. This is found to be highly effective and useful for reps.

Effectiveness of Tools

In general, it appears that most AEs use the tools to look at customer profiles, show customers their load profile, and instruct customers on how to use the tool. As mentioned above, some customers use it to test different DR reduction measures in their facilities. Customers like the tool because you can use it to see how their facility is operating, and whether equipment is left running overnight. PG&E uses InterAct to view customer profiles and provide customers access to their data. SCE uses SCE EnergyManager® and SCE Cost Manager® to give customers access. SCE will also provide real-time information for a small fee. SDG&E uses KWickview for its customers.

Some issues that were raised by PG&E AEs regarding InterAct:

- InterAct doesn't always work with the browser on customer computer. The navigation drop-down buttons sometimes disappears.
- Sometimes the tool is missing data (e.g. 3 or 4 days of data)
- The tool could use more automation, e.g. when facility ownership changes, the new customer name doesn't show up. (You have to go to the old name and contact InterAct group to give access to the new customer, being careful not to give them access to old billing/consumption data).
- InterAct could be improved to make it more real time. One of the third party DR aggregators offers a real-time system for its program participants, so they can monitor how much load is being dropped (as well as who is participating and who is not)

Some issues that were raised by SCE AEs regarding SCE EnergyManager®:

- Adjust the default printing setting, so it does not print all interval data, when you just want to print the current page. Also, have the program automatically print to landscape orientation.
- Make registration to the tool easier. Consider having customers be automatically signed up rather than asking AEs to confirm.

Some issues that were raised by SDG&E AEs regarding KWickview:

- The tool currently allows customers and AE's to run different scenarios. However, the online analysis does not relate energy use to cost. If it was able to output what the cost would be based on a customer's history of usage, then the tool would be much more effective.
- In order to compare the scenarios generated by the tool, AE's must manually copy and paste the output of each modeled scenario into a Word document to provide to the customers. AEs would like to see a summary page output that could automatically provide this overview of different scenarios.

SDG&E AEs suggested the real-time information be provided in the KWickview tool for their customers.

AEs also use the CPP Analysis Tool to analyze whether CPP would be beneficial to their customers. The CPP Tool is a calculation tool that uses the customer's previous 12 month usage and shows costs impacts of different levels of action (e.g. no action, 10%, 20%, 30%). This tool is only available to AEs and seems to be useful, especially since it is automated so that the AE can just enter customer account number.

The main complaint associated with the CPP Tool is when the customer accounts are not automatically available. It is difficult to get customers loaded into there to do the analysis, and this can cause significant delays.

Some AEs also give their customers a summary of what they have accomplished in the DR programs for the previous season. The summary shows which events they participated in, the amount of money they saved and kW saved. There does not seem to be an easy way to provide this to customers, however. AEs have to contact internal staff to provide this analysis. It is recommended that the customers' online billing tool (InterAct, KWickview or Energy Manager) provide this information at the end of each season.

Barriers to Respond to DR Events

The biggest barrier to customer participation in DR is related to concerns that curtailing load would impact the customers' core business functions. To engage customers on DR strategies, AEs need to first fully understand what these core business functions are and then figure out what load reduction strategies will work within those constraints.

While some AEs appear to try hard to identify opportunities in the face of customer resistance, others appear to accept customer statements at face value when they say they can't curtail. It is often challenging for the rep to figure out if there are strategies that can work for a customer.

If it is difficult for the customer to identify its own opportunities, it is even more difficult for the rep to do so, since they are not as familiar with facility processes and other organizational barriers. This is why programs like TA/TI are important, because there are dedicated "specialists" who can provide curtailment recommendations and strategies.

Some commonly cited barriers to responding to events tend to be the same barriers AEs cited as barriers for participating in DR in general:

- Customer does not have an EMS or controls system, so participation is often a hassle. The incentives are not enough to justify staff going to each building and adjusting thermostat to raise settings (e.g. $50, $100 a month is not enough incentive for the hours required of technicians).
- Some customers are already financially struggling, and have already identified opportunities to reduce as much energy use as possible (e.g. already running buildings at 76 degrees all the time).
- Customers are simply not eligible (e.g. direct access, solar net metering or OBMC customers).
- Lack of interest or willingness to change processes. For example, some high tech companies said they "didn't want to mess with stuff."

2.7.4 Preparing for CPP-Default

SDG&E customers (over 200 kW) were rolled over to CPP-Default in May 2008. As of October 1, 2009, SCE rolled over customers with over 200 kW demand to the CPP-Default tariff. At the time of the interviews during the summer of 2009, PG&E was in the process of planning their rollout for 2010. Following are brief summaries of activities and plans for the CPP-D roll-outs by SCE and PG&E and outcomes from the CPP-D rollouts from SDG&E.

SCE Roll-out

As of October 1, 2009, SCE rolled-out the default CPP tariff to customers with over 200 kW demand. According to AEs, customers who did not benefit (i.e. based on the rate analysis provided to them by the Rate Analysis Group) opted out. Most customers are waiting until the updated rate analysis is provided to them in April 2010 before deciding whether to stay on the rate or opt out. Bill protection is being provided to customers for the first year. Those who opt out prior to default, and then choose to enroll in the rate again, however, will not be eligible for bill protection.

In terms of framing the CPP-D change, some SCE AEs have communicated to customers that this shift to time of use price incentives is inevitable. AEs have to educate customers that the rationale for CPP-D is due to capacity constraints on the California grid. Most SCE AEs feel that they have been provided adequate information to answer customer questions and appear to be happy with how communications were handled.

PG&E Planning for Rollout

PG&E AEs indicate that the CPP-Default notifications have begun, but that tariff details had not been finalized (as of end of August 2009). Most reps feel that they have been provided adequate information by PG&E to answer customer questions, given the fact that the CPP-Default details have yet to be finalized.

Some marketing of the CPP-Default tariff has already occurred. Formal letters were sent to customers, along with a lengthy email (all AEs were required to send out an email to their customers). Only a small number of customers contacted their AEs to follow up.

Not surprisingly, most customer reactions have been negative. Most of the concerns were around the expected financial impact of the change and whether they should opt out or not. In this respect, an analysis tool (similar to the CPP-V Analysis tool) will be extremely valuable. Customers who are most unhappy are those who feel they cannot shift any load.

Recommendations provided by PG&E AEs to smooth the transition include:

- **Continue to send out information repeatedly.** For example, consider some bullet points to be sent by email every month. The CPP-D manager should continue to send an email to AEs to send to their customers.
- **AEs need to continue to bring up the CPP-D change during each meeting with customers.** It can take some customers several visits with the account rep before grasping what CPP-D is or means.

- **Implement a steady education campaign and frame the tariff as being "part of the solution."** Continue to notify customers through multiple channels and engage their participation through personal meetings and workshops.
- **Re-consider the capacity reservation charge.** One AE mentioned that she was concerned a CRC component may be too confusing for customers, and that "this is going to blow people's minds."

SDG&E Rollout

SDG&E's CPP-D roll out came out during high fire season, which is already one of the busiest times of the years. In order to communicate the necessary information to customers the AE's were often forced to work overtime.

AE's attempted to contact all their customers by setting up face to face meetings and encouraging them to participate in the rate introduction workshops. Normally when an AE sees a customer, they want to cover numerous things to make the most of the visit, but because the rate information was released during one of the busiest times of the year the focus of most customer meetings was just to explain the rate.

Even though the process was quite challenging, it did provide an opportunity to make new contacts with customers. At the time of the CPP-D roll out a number of customer accounts had recently been re-assigned. This provided an opportunity to communicate with the decision makers. For example, some AEs primarily work with the maintenance folks at customer sites, who may be relatively risk adverse. The CPP-D roll-out initiative provided an opportunity to make contact with not only the facility personnel, but also with decision makers. The flip side to this is that some decision makers did not respond after numerous attempts to contact them were made. Email and postage often goes out to the wrong people. This proved to be especially true due to the volatile state of the economy in which there was employee turnover.

During the rushed roll out period, AEs also relied on support staff at SDG&E, in order to put together billing analysis scenarios for customers. While support staff provided critical assistance at this time, AEs were still responsible for aggregating the results of the analysis. More automated billing analysis is desired to streamline the process.

Customer reaction and response to CPP-D tariff

Most customers opt to stay on the rate and cited bill protection as a significant factor in choosing to not opt-out. One major concern of a lot of the AE's is that bill protection was offered in a year

in which there were no CPP events. This could potentially be quite misleading to customers if bill protection is not available in year two and events are triggered.

AEs indicated they thought that following attendance to the CPP-D introductory workshop, probably 10% of customers fully understood the effect the new rate would have on them. 90% of customers probably do not fully understand how the new rate affects them. On the whole, perhaps 99% of customers did not fully understand the rate. This may be due to the complexity of the CPP-D tariff structure.

The most effective way for customers to understand the new rate is to have visual explanations (e.g. charts and graphs of how the rate might affect them). Analysis that demonstrates the rate impacts of different scenarios can help a customer to understand how a tariff could potentially impact their bill. This is the most effective and transparent way to help customers make the best choices about what tariff to enroll in.

The CRC is quite confusing to customers. The word "capacity" gives some customers the impression that their power will be shut off if they reach a certain level of use. AEs recommend making this clearer. Moreover, some customers still are electing to have their CRC set at 100%. The CRC is by far the most confusing part of the new rate.

The wording for opting-out was quite confusing. Moreover, the opt-out notification letter was confusing because it listed one date for customers to opt out and another for selecting their CRC. There should only be one deadline for both opt-out and selecting CRC.

SDG&E rolled the rate out in the middle of the customer education period, which also happened to be during the event season. AE's recommend providing more of a window between the customer education period and the rate launch date, as well as not rolling out the rate during the event season.

Year two has been much easier because most AE's did the ground work last year to pass on the information about the default tariff. Most customers chose to maintain the same tariff as last year. AE's are concerned that customers could de disgruntled once events are triggered. Therefore, perhaps bill protection should be offered during an event year to allow customers to understand how an event works, and how they might respond to one.

Reasons for customer opt-out of CPP-D tariff

Certain customer groups are more interested in having a set monthly rate opposed to a fluctuating rate (e.g. school districts budget their costs for electricity on a monthly basis; one

month of having an inflated bill due to a series of emergencies might cause more risk than paying slightly more every month).

The most common response from customers is that they do not feel that they can drop the load during peak periods. For example, if a customer's primary load came from running a chiller in summer months, it made more sense to opt-out.

National chain accounts tend to prefer to manage all of their statewide locations with the same tariff. Another challenge with reaching out to chain accounts is that the decision makers are rarely located in the state, much less in the service territory, so there is minimal opportunity to have face to face interaction with the customers in order to explain the effects of moving onto the new tariff. Looking ahead, if all three IOU's in CA rolled out the program at the same time, there may be more incentive for the national chain account customers to switch all of their facilities to the default tariff.

There was a perception from certain customers that SDG&E would just run events and run their bill up. Education about event triggers and demand pricing from the utility perspective could help address this perception.

More customers may choose to opt-out in the future if there are actual events called. The majority of customers are content with the program because of the relatively few events that have been called. More constant information about how to prepare for an event could ease the rate of drop outs once the incidence of events increases.

2.7.5 Integration of DR and EE

In general, AEs say that integration of DR and EE marketing efforts make sense. When customers are exposed to the idea of energy efficiency, it makes it easier to introduce the idea of demand response. Furthermore, when energy audits are completed, it makes sense to explore both energy efficiency and demand response opportunities while the technical staff is on site. The biggest challenge to this approach is that customers can only absorb a small amount of information at a time and it is easier to focus on one topic at a time.

AEs can have a significant influence by asking design firms and contractors hired by customers to also consider demand response strategies associated with retrofit projects. For example, one food processor had only considered lights and office opportunities to respond to DR events. When they were designing a new refrigeration system for the warehouse, the rep asked the design firm to consider pre-cooling and drift for DR events.

One rep compared integration of EE and DR to when the cable company bundles phone and internet services for a reduced cost. However, the rep pointed out that customers do not get increased financial incentives for bundling participation in multiple programs.

AEs are found to focus most of their time on energy efficiency, as all AEs have individual EE goals and only some AEs have individual DR goals. There are significant penalties if the IOUs do not achieve its energy efficiency targets, but no penalties for not achieving DR. The account rep individual goals reflect this. There is also a seasonal aspect to DR marketing and outreach, where AEs work hard to sign up customers prior to the event season. Energy efficiency outreach occurs year-round.

2.7.6 Conclusions and Recommendations

The most successful aspects of account rep promotion of DR programs are the face-to-face contact and personal follow-up to answer questions and address concerns. AEs find they are more effective and have more credibility than the third-party marketers because they represent the utility and they have a personal relationship with customer contacts. Of course, this type of personalized attention is not available to all customers and this is one weakness as CPP-Default and DR is targeted at more customer accounts.

The following recommendations are provided to improve demand savings and increase customer satisfaction with the DR programs.

- **Improve technical support services to help customers identify opportunities to reduce energy load**. Suggestions include increasing energy audits, clearly explain measures, producing written reports and requiring oral presentation with key site stakeholders. The TA/TI program should be revived for PG&E and used to assist customers with identifying opportunities and offering incentives for necessary equipment upgrades to facilitate DR participation.
- **Ensure that participation in DR programs include a strong component to assist customers with identifying curtailment measures** and incentives for controls. When customers sign up for DR programs, they should automatically receive an energy audit as a component for participation.
- **Keep things simple as possible.** BIP is simple and easy to understand. Seek to design the CPP-Default tariff to be as simple as possible. Consider re-naming (or excluding) the capacity reservation charge component of the tariff.
- **Leverage multiple channels to inform customers of CPP-Default.** Since customers are often preoccupied with their principal job functions, marketing efforts require persistence.

- **Continue to have wide selection of DR programs.** AEs like having different program options to present to customers. The variety enables AEs to find programs to best suit customer needs and address concerns related to risk, flexibility and ability to choose level of curtailment commitment.
- **Provide participating DR customers with feedback on their performance during events.** AEs are currently providing this on an ad hoc basis. This type of feedback is valuable to customers, both to inform them of successful (and not successful) attempts and validate the financial benefits of participation.

2.8 Customer Online Survey and In-depth Telephone Survey Results

2.8.1 Online Surveys

Online surveys were sent to all program participants for BIP, CPP-V, CPP-E, CPP-D and CPP-D Opt-out customers based on lists provided by each IOU. We received a total of 256 completed surveys representing a 20% response rate as a percentage of the total sample of 1299 unique organizations. However, given the potential for bias that an online survey may introduce, non-respondents to the online survey were targeted in the follow-up in-depth interviews to solicit information about their experience with demand response programs and rates, including qualitative feedback and recommendations from customers.

The purpose of the online surveys was to solicit information on customer awareness, reactions to program/rate features and overall satisfaction with being on the CPP-D rate or participating in a DR program. A key area of focus for all IOUs was to gain any insights or lessons learned from SDG&E's customers in regards to SDG&E's recent experience with rolling out the CPUC mandatory CPP-Default rate. As such, customers who opted out of the CPP-D rate were also targeted in order to assess these organizations' key reasons for opting out of the rate.

2.8.2 In-depth Interviews

The team conducted a total of 108 interviews among IOU nonresidential customers. These customers are either participating in BIP, CPP-V, CPP-E, CPP-D or have opted out of the CPP-D rate. A quarter of the in-depth survey respondents also participated in the online survey and agreed to answer follow-up questions regarding their participation and actions during the recent demand response events. The team completed the remaining three-quarters of the surveys among non-respondents to the online survey in order to address potential non-response bias to the online results. The purpose for the in-depth interviews was to probe for more details on key

responses to online questions regarding their participation experience and to gain more knowledge about customer's experience and actions taken during the demand response events that occurred during the summer of 2009.

2.8.3 Respondent Characteristics

2.8.3.1 Energy Manager Characteristics

Table 2-14 illustrates the respondent characteristics within organizations that participated in the both the online surveys and in-depth interviews for CPP-D and CPP-D Opt-outs. Sixty-three percent of CPP-D respondents and 78% of Opt-Out respondents were either facility managers or had other facilities management/maintenance positions.

Table 2-14: CPP-D and Opt-outs Respondent Job Titles[19]

	CPP-D			Opt-outs		
	Online Survey	In-depth survey	Combined	Online survey	In-depth survey	Combined
Facilities Manager	15	9	24	5	13	18
Other facilities management/ maintenance position/Other management	9	6	15	6	12	18
Other financial/administrative position	3	2	5	2	2	4
Operations	3	1	4	0	0	0
Engineer	2	1	3	0	0	0
Energy Manager	1	1	2	1	1	2
Chief Financial Officer	1	1	2	1	1	2
Proprietor/Owner	0	2	2		0	0
President/CEO/VP	1	1	2	1	0	1
Plant Manager	0	2	2	0	0	0
Controller	1	0	1	0	0	0
Other	0	0	0	0	1	1
Total	36	26	62	16	30	46

[19] Data presented in the job titles tables (2-14, 2-15, and 2-16) include all online survey respondents who were aware of their DR program or rate and in-depth survey respondents who did not participate in the online survey.

As with the CPP-D respondents, the most common position among CPP-V/E survey respondents (39%) was facility manager or another facilities management/maintenance position.

Table 2-15: CPP-V/E Respondent Job Titles

	Online survey	In-depth survey	Combined
Facilities Manager	27	3	30
Engineer	11	1	12
Other financial/administrative position	9	1	10
Plant Manager	10	0	10
Energy Manager	9	0	9
Operations	6	0	6
Other facilities management/ maintenance position/Other management	4	1	5
President/CEO/VP	4	0	4
Chief Financial Officer	1	0	1
Proprietor/Owner	1	0	1
Controller	1	0	1
Other	0	1	10
Total	83	7	90

As seen in Table 2-16, there is more variety with respect to job title among BIP respondents. While 39% are also facilities managers or other facilities manager/maintenance position, at least 34% are plant managers, engineers or President/CEOs.

Table 2-16: BIP Respondent Job Titles

	Online survey	In-depth survey	Combined
Facilities Manager	27	2	29
Other facilities management/ maintenance position/Other management	16	0	16
Plant Manager	12	2	14
Engineer	11	2	13
President/CEO/VP	12	0	12
Other financial/administrative position	5	6	11
Energy Manager	8	0	8
Proprietor/Owner	1	3	4
Operations	2	1	3
Chief Financial Officer	2	0	2
Controller	1	1	2
Other	0	2	2
Total	97	19	116

Respondents to the in-depth survey were asked how many sites they manage. The majority of respondents tend to manage multiple sites. This is true for CPP-D (52%), Opt-out (74%), and CPP-V/E (50%). However, only 41% of BIP respondents manage multiple sites. Tables 2-17, 2-18, and 2-19 provide details on the number of sites managed by each respondent.

Table 2-17: Number of Sites Managed: CPP-D and Opt-outs[20]

	CPP-D	Opt-Outs
Single Site	15	9
Multiple Sites	16	25
Total	31	34

Table 2-18: Number of Sites Managed: CPP-V/E

	CPP-V/E
Single Site	8
Multiple Sites	8
Total	16

Table 2-19: Number of Sites Managed: BIP

	BIP
Single site	16
Multiple sites	11
Total	27

2.8.3.2 Organization Characteristics

Tables 2-20, 2-21 and 2-22, provide a breakdown of the facility type where respondents work. Respondents in CPP-D as well as Opt-Out respondents tend to work in office settings (23% and 26% respectively). Seventeen percent of Opt-Out respondents work in the health care industry.

[20] Data presented in the sites managed tables (2-17, 2-18, and 2-19) include all in-depth survey respondents.

Participants in the voluntary programs CPP-V/E tend to work in industrial settings (39%). The vast majority of BIP respondents (64%) works in or manages an industrial facility.

Table 2-20: CPP-D and Opt-out -- Facility Type

	CPP-D			Opt-Outs		
	Online Survey	In-depth survey	Combined	Online Survey	In-depth survey	Combined
Office	10	4	14	8	4	12
Other Industrial	6	1	7	2	0	2
Community service/Church/Temple/Municipality/Public use spaces	3	3	6	0	2	2
Manufacturing/Research consumer/commercial devices/products	1	4	5	1	0	1
Health care/hospital/Pharmaceuticals/bio-med	0	4	4	2	6	8
Transportation/Telecommunications/Data Centers/Production Studio/Software/Utility	3	1	4	0	2	2
Retail (non-food)	3	0	3	0	1	1
Hotel/motel/residential building complex	2	1	3	0	1	1
Power Generation/distribution	0	3	3	0	0	0
Outdoor venues/campgrounds/Sporting grounds	3	0	3	0	1	1
School	2	0	2	1	2	3
Warehouse	1	1	2	0	1	1
Agricultural/Food manufacturing/Distribution	1	1	2	0	0	0
Convenience Store	0	1	1	0	0	0
Restaurant	1	0	1	0	0	0
Industrial Mining, Metals, Stone, Glass, Concrete, Wood	0	1	1	1		1
Water Treatment/Distribution	0	1	1	0	5	5
College/University	0	0	0	0	1	1
Grocery Store	0	0	0	0	1	1
Industrial Electronic & Machinery	0	0	0	1	1	2
Industrial Petroleum, Plastic, Rubber and Chemicals	0	0	0	0	1	1
Don't know	0	0	0	0	1	1
Total	36	26	62	16	30	46

Table 2-21: CPP-V/E Respondents – Facility Type

	Online survey	In-depth survey	Combined
Other Industrial	12	3	15
Office	9	2	11
Industrial Mining, Metals, Stone, Glass, Concrete, Wood	11	0	11
School	7	1	8
Industrial Petroleum, Plastic, Rubber and Chemicals	5	0	5
Agricultural/Food manufacturing/Distribution	4	1	5
Health care/hospital/Pharmaceuticals/bio-med	4	0	4
Industrial Electronic & Machinery	4	0	4
Transportation/Telecommunications/Data Centers/Production Studio/Software/Utility	4	0	4
Water Treatment/Distribution	4	0	4
Manufacturing/Research consumer/commercial devices/products	4	0	4
Warehouse	3	0	3
Community service/Church/Temple/Municipality/Public use spaces	3	0	3
Outdoor venues/campgrounds/Sporting grounds	3	0	3
Retail (non-food)	2	0	2
Grocery store	2	0	2
College/University	1	0	1
Hotel/motel/residential building complex	1	0	1
Total	83	7	90

Table 2-22: BIP Respondents – Facility Type

	Online survey	In-depth survey	Combined
Other Industrial	18	5	23
Industrial Petroleum, Plastic, Rubber and Chemicals	18	3	21
Industrial Electronic & Machinery	12	3	15
Industrial Mining, Metals, Stone, Glass, Concrete, Wood	13	2	15
Manufacturing/Research consumer/commercial devices/products	8	0	8
Health care/hospital/Pharmaceuticals/bio-med	7	0	7
Office	3	1	4
Agricultural/Food manufacturing/Distribution	4	0	4
Transportation/Telecommunications/Data Centers/Production Studio/Software/Utility	3	1	4
Water Treatment/Distribution	3	1	4
Retail (non-food)	1	1	2
School	1	1	2
Hotel/motel/residential building complex	2	0	2
Warehouse	2	0	2
Grocery store	0	1	1
Community service/Church/Temple/Municipality/Public use spaces	1	0	1
Outdoor venues/campgrounds/Sporting grounds	1	0	1
Total	97	19	116

Respondents were asked how many full-time employees work at their facility. As seen in Table 2-23 below, CPP-D respondents tend to work in facilities with a moderate to large number of employees. Forty-seven percent of the CPP-D respondents worked in facilities with 251 to over 1000 full time employees. Opt-out respondents tend to work in small firms where nearly 40% of the Opt-out respondents are employed in facilities with 100 or fewer full-time employees.

Table 2-23: CPP-D and Opt-Out Respondents -- Number of Employees

	CPP-D			Opt-Outs		
	Online Survey	In-depth survey	Combined	Online survey	In-depth survey	Combined
1-10	2	3	5	3	3	6
11-50	2	1	3	2	2	4
51-100	4	4	8	4	4	8
101-250	12	5	17	3	2	5
251-500	8	2	10	0	7	7
501-1000	3	8	11	1	2	3
Over 1000	5	3	8	3	7	10
Don't know	0	0	0	0	3	3
Total	36	26	62	16	30	46

Table 2-24 illustrates the size of facility based on employees for CPP-V/E respondents. These respondents tend to work in small to moderate size firms with 50% of employees working in facilities with 100 or fewer full time employees; and 70% working in firms with 250 or fewer full time employees.

Table 2-24: CPP-V/E Respondents – Number of Employees

	Online survey	In-depth survey	Combined
1-10	6	0	6
11-50	22	1	23
51-100	15	2	17
101-250	16	1	17
251-500	14	1	15
501-1000	4	0	4
Over 1000	6	2	8
Total	83	7	90

As shown in Table 2-25, BIP respondents also tend to work in smaller or moderate size facilities with nearly 40% working in facilities with 100 or fewer full-time employees and 70% in facilities with 250 or fewer full time employees.

Table 2-25: BIP Respondents – Number of Employees

	Online survey	In-depth survey	Combined
1-10	2	0	2
11-50	17	4	21
51-100	21	2	23
101-250	26	10	36
251-500	16	0	16
501-1000	9	1	10
Over 1000	5	2	7
Refused/Don't know	1	0	1
Total	97	19	116

2.8.4 Customer Awareness

With the online survey, we found respondent awareness of their organization's DR program enrollment or participation on the CPP rate was very high. The highest rate of awareness was found among CPP-V and CPP-E respondents at 98% (83 out of 85 were aware of their program participation). BIP respondents' awareness of program participation was over 90% (97 out of 105 customers aware of program participation). CPP-D and CPP-D Opt-Out respondents show somewhat lower awareness that their organizations were either enrolled in the CPP-D rate (82%; 36 out of 44 customers) or opted out of the CPP-D rate (73%; 16 of 22 customers).

For the in-depth interviews, we wanted to make sure we were speaking with the person most knowledgeable about energy usage at each organization. As such, we saw awareness levels increase among the 108 in-depth telephone survey respondents. Nearly 100% of respondents were aware of their organizations' participation in either the CPP rate or the BIP program. Only one BIP participant and one CPP-D Opt-Out customer were unaware of their program participation or opt-out of the CPP-D rate.

2.8.5 Communications and Marketing

2.8.5.1 Initial communications on DR programs and rates

Respondents were asked how they first learned about their respective DR program or rate (see tables 2-26, 2-27, and 2-28 below).

The vast majority of CPP-V/E and BIP customers learned about their DR programs via a phone call or meeting with their Account Executive or Account Representative (73% and 61% respectively). An additional 16% of CPP-V/E customers and 14% of BIP customers found out

about their program at a utility presentation. Among the 20 BIP respondents and 2 CPP-V/E respondents who learned about their program through some other means, most of these customers had prior experience with demand response programs at their organization and thus were already well informed about current DR programs.

Table 2-26: Initial Communications from Utilities about Program: CPP-V/E

Initial Source	% Aware of program	N= Aware of program
Phone call /meeting with Account Rep/AE	73%	61
Utility presentation	16%	13
Email communication from utility	8%	7
Pamphlet/mail from utility	6%	5
Other	5%	4
Phone call from program manager	4%	3
Don't know	2%	2
Utility website	0%	0
Total CPPV/E cust. aware of program		83

Table 2-27: Initial Communications from Utilities about Program: BIP

	% Aware of program	N = Aware of program
Phone call /meeting with Account Rep/AE	61%	59
Other	21%	20
Utility presentation	14%	14
Pamphlet/mail from utility	8%	8
Phone call from program manager	6%	6
Email communication from utility	3%	3
Utility website	1%	1
Don't know	1%	1
Total BIP cust. aware of program		97

SDG&E customers first found out about the CPP-D rate primarily through direct contact with their Account Executive, either during an in-person meeting or a phone call (60% of CPP-D respondents and 48% of Opt-Out respondents), or through an email communication from SDG&E (34% of CPP-D respondents and 24% of Opt-Out respondents). Additionally, 23% of CPP-D respondents and 22% of CPP-D Opt-Out respondents reported that they attended an SDG&E presentation in person.

Table 2-28: Initial Communications --SDG&E: CPP-D and CPP-D Opt-Out Customers[21]

	% Aware of CPP-D rate	N = Aware of CPP-D rate	% Opt-Out aware of rate	N=Opt-Out aware of rate
Phone call/meeting with AE or other SDG&E rep.	60%	37	48%	22
Email communication from SDG&E	34%	21	24%	11
Attended SDG&E presentation in person	23%	14	22%	10
Pamphlet/mail from SDG&E	16%	10	20%	9
Other	6%	4	7%	3
SDG&E website	5%	3	7%	3
Watched an online video about the CPP-D rate	2%	1	0%	0
Don't know	2%	1	13%	6
Total CPPD & Opt-Out cust. aware of rate[22]		62		46

CPP-D and CPP-D Opt-Out respondents were also asked follow-up questions about their understanding of fundamental aspects of the CPP-D rate at the time they first learned about the rate. They were asked:

[21] Data from CPP-D/Opt-Out, CPP-V, and BIP tables on initial communications from utilities (2-26, 2-27, 2-28) are based on responses from customers who took the online survey and data from respondents who completed telephone interviews, but did not participate in the online survey.

[22] Since customers may have received multiple forms of communication, totals do not equal 100%.

1. Did they understand the rate would result in a lower rate than their otherwise applicable rate for the rest of the year; and a higher rate during a demand response event?
   -- 95% CPP-D and Opt-Out customers understood this aspect of the CPP-D rate.
2. Whether they thought that they would have to shut down their operations completely during an event?
   -- 6% of CPP-D respondents believed this to be the case. A somewhat higher number of CPP-D Opt-Out respondents (11%) believed that their organization would need to shut down their operations completely during an event.

2.8.5.2 Capacity Reservation Charge (CPP-D Only)

CPP-D and CPP-D Opt-Out respondents were asked about their understanding of the capacity reservation charge (CRC), a fixed monthly fee that CPP-D customers pay in order to reserve a specific amount of electricity that cannot be exposed to the higher peak demand event rate.

The responses in Table 2-29 reflect respondent's unaided understanding of the CRC. In other words, respondents were not given a definition of the CRC during the survey or interview. A relatively large number of CPP-D and Opt-Out respondents did not understand the CRC (more than 40%).

Table 2-29: CPP-D and CPP-D Opt-Out Customers[23]-- Unaided Understanding of CRC

	% all CPP-D	N= all CPP-D	% all Opt-Out	N=all Opt-Out
Yes	58%	36	60%	27
No	42%	26	40%	18
Total	100%	62	100%	45

Table 2-30 provides data on whether or not respondents' Account Executives explained the CRC to them. Only respondents who learned of the CPP-D rate via a phone call or meeting from their AE (see Table 2-28 above) are included in this table. Nearly 90% of CPP-D

[23] This table combines data from customers who took part in the online survey and data from respondents who completed telephone interviews, but did not participate in the online survey.

respondents said that their AE explained the CRC to them, and nearly three-quarters of Opt-Out respondents said that their AE gave them an explanation about the CRC.

Table 2-30: CPP-D and CPP-D Opt-Out Customers -- AE Explain the CRC

	% CPP-D who learned of rate from AE	N= learned of rate from AE	% Opt-Out who learned of rate from AE	N= Opt-Out learned of rate from AE
Yes	89%	33	73%	16
No	11%	4	27%	6
Total	100%	37	100%	22

Respondents who understood the CRC were asked whether or not they selected a CRC or simply defaulted to having a CRC of 50%. Nearly two-thirds of CPP-D respondents said that they selected a CRC (28 out of 43).[24] Most of CPP-D respondents who selected a CRC did so based on historical energy usage data or ran multiple cost analysis scenarios. A few CPP-D respondents selected their CRC with the help of their AE.

The final question related to the CRC given to customers who understood the CRC was what they thought the default CRC should be. Almost half of the respondents (21 out of 43) had no opinion on the default CRC. Twenty-one percent (9 out of 43) said the CRC should remain at 50% and 26% percent (11 out of 43) said that it should be lower. Only two CPP-D respondents said that it should be higher than 50%.

2.8.5.3 Bill Protection (CPP-D Only)

CPP-D customers were protected from paying more on the CPP-D rate than what they would have paid under the standard time-of-use rate during their first year on CPP-D through a feature known as bill protection. Awareness of bill protection was nearly 90% among CPP-D online survey and in-depth interview respondents (52 out of 59 were aware of bill protection). Respondents who were aware of bill protection were then asked whether or not having bill protection influenced their decision to stay on the CPP-D rate and not opt-out.

[24] This includes respondents from the in-depth interview who were given a definition of the CRC after an initial unprompted CRC understanding question.

As shown in Table 2-31, two-thirds of respondents considered bill protection "very important" in their decision to remain on the CPP-D rate and nearly 90% of respondents considered bill protection at least "somewhat important" in their decision to stay on the CPP-D rate. Only 8% of respondents considered bill protection "not very important" or "not important at all."

Table 2-31: Importance of Bill Protection in Staying on CPP-D Rate: CPP-D

	% among all CPP-D	N = all CPP-D
Very important	67%	35
Somewhat important	21%	11
Not very important	6%	3
Not important at all	2%	1
Don't know	4%	2
Total	100%	52

2.8.5.4 Satisfaction with Communications about Programs and Rates

The vast majority of online survey respondents were at least somewhat satisfied with communications from their utility regarding demand response programs and rates. For CPP-V/E customers (Table 2-32), just under half of the respondents were very satisfied with program communications.

Table 2-32: Satisfaction with Communications from Utilities about Program: CPP-V/E Online Survey Respondents

	% CPP-V/E aware of program	N =CPP-V/E aware of program
Very satisfied	49%	41
Somewhat satisfied	41%	34
Somewhat unsatisfied	5%	4
Not satisfied at all	1%	1
Don't know	4%	3
Total	100%	83

In Table 2-33, 22% of respondents are very satisfied with communication regarding the CPP-D rate and 44% of the Opt-Out respondents are very satisfied with the communications they have received from their utility.

Table 2-33: Satisfaction with Communications from SDG&E about CPP-D Rate: CPP-D and CPP-D Opt-Out Online Survey Respondents

	% CPP-D aware of CPPD rate	N=CPP-D aware of CPPD rate	% Opt-Out aware of CPP-D rate	N=Opt-Out aware of CPP-D rate
Very satisfied	22%	8	44%	7
Somewhat satisfied	53%	19	44%	7
Somewhat unsatisfied	17%	6	6%	1
Not satisfied at all	3%	1	0%	0
Don't know	6%	2	6%	1
Total	100%	36	100%	16

BIP respondents (Table 2-34) express the highest rate of satisfaction with communication with more than three-quarters of respondents saying that they are very satisfied with communications from the utilities.

Table 2-34: Satisfaction with Communications from Utilities about Program: BIP Online Survey Respondents

	% BIP aware of program	N =BIP aware of program
Very satisfied	75%	73
Somewhat satisfied	22%	21
Somewhat unsatisfied	2%	2
Not satisfied at all	0%	0
Don't know	1%	1
Total	100%	97

Participants in the in-depth telephone interviews were also asked if they were satisfied with program and rate communications. We used the results from the in-depth interviews to address any potential bias in satisfaction that may have been introduced in the online survey. Tables 2-35, 2-36 and 2-37 below combine results from the online survey with the results from in-depth survey respondents who did not take the online survey. Because in-depth survey respondents were asked to rate their satisfaction on a “satisfied” and “unsatisfied” scale, results from the online survey have been condensed here to a two point scale.

Table 2-35: Satisfaction with Communications from Utilities about Program: CPP-V/E Online Survey Respondents and In-Depth Survey Respondents

	% a CPP-V/E aware of program	N=CPP-V/E aware of program
Satisfied	91%	82
Unsatisfied	6%	5
Don't know	3%	3
Total	100%	90

Table 2-36: Satisfaction with Communications from SDG&E about CPP-D Rate: CPP-D and CPP-D Opt-Out Online Survey Respondents and In-Depth Survey Respondents[25]

	% CPP-D aware of rate	N=CPPD cust. aware of rate	% Opt-Out aware of rate	N=Opt-Out aware of rate
Satisfied	75%	46	76%	35
Unsatisfied	21%	13	20%	9
Don't know	3%	2	4%	2
Total	100%	61	100%	46

Table 2-37: Satisfaction with Communications from Utilities about Program: BIP Online Survey Respondents and In-Depth Survey Respondents

	% BIP aware of program	N = BIP aware of program
Satisfied	97%	112
Unsatisfied	3%	3
Don't know	1%	1
Total	100%	116

The combined data presented in Tables 2-35, 2-36, and 2-37 are largely in line with data from Tables 2-32, 2-33, and 2-34 with over 90% of CPP-V/E and BIP customer expressing

[25] In-depth survey data in tables 2-35, 2-36, and 2-37 are based only on the responses of those customers who did not take part in the online survey

satisfaction with utility communications about their respective programs and about three-quarters of CPP-D and CPP-D Opt-Out respondents expressing satisfaction about communications about the CPP-D rate. It should be noted, however, that dissatisfaction among CPP-D and CPP-D Opt-Out respondents regarding CPP-D rate communications is considerably higher than among CPP-V/E and BIP respondents with roughly one in five of CPP-D and CPP-D Opt-Out respondents expressing dissatisfaction with communications about the CPP-D rate.

2.8.5.5 Suggestions for Improving Communications about Programs and Rates

Respondents were given the opportunity to make suggestions for improving utility communications on programs and rates, which were then post-coded and placed into categories that synthesize answers given by each respondent. For participants in the online survey, responses to open-ended questions were optional. For in-depth survey participants, suggestions were optional as well, since some respondents had no suggestions for improving communications.

The top suggestions from CPP-D customers and CPP-D Opt-Out customers who participated in the online survey and/or in-depth survey for improving communications from SDG&E on the CPP-D rate are as follows:

- Provide more education for new customers and follow-up education for existing customers on CPP-D rate
- The rate needs to be less complicated and Account Executives need to be better educated about the rate in order to provide clearer information to customers
- Provide more tools and information about pros and cons of being on CPP-D rate, including a year-end report on an organization's performance and/or reports on performance during an demand response event

CPP-D Opt-Out respondents also suggested the following:

- SDG&E should run comprehensive billing analyses for potential CPP-D customers in order to emphasize potential savings

CPP-V and BIP customers had similar suggestions for improving utility communications about the DR programs:

- Provide more education for new customers and follow-up education for existing customers on programs

- Programs should be simplified; penalties and savings need to be summarized and easier to understand

- Year-end report/details on organizations performance during year and during an event

In sum, DR customers are looking for more education and follow-up education about their respective rates and programs and would like details of the rates and programs explained more clearly, or would like to see the rates and programs simplified. Respondents are also seeking more information about their energy usage during the year and during events.

2.8.6 Motivations for Participating in Demand Response Rates and Program

2.8.6.1 Reasons for Defaulting to CPP-D Rate or Participating in DR Program

In-depth telephone survey respondents were asked why they decided to default to the CPP-D rate or why they chose to participate in a DR program. Below are the top reasons cited by respondents for joining a DR program or defaulting to the CPP-D rate:

- Rate/program incentives lead to cost savings

- Organization's operations are well-suited for being on CPP-D rate or participating in a DR program

- Save energy and/or environmental reasons

Cost savings and rate/program incentives were by far the most frequently cited reason customers gave for defaulting to the CPP-D rate or participating in DR programs. Some respondents said that their organization was well suited for being on the CPP-D rate or for being in a DR program. A few respondents cited energy savings or environmental reasons for their participation in DR program/rates. Another reason was a lack of a better alternative. That is to say, opting out of the CPP-D rate would have been worse for the organization.

2.8.6.2 Reasons for Opting out the CPP-D Rate

CPP-D Opt-Out respondents were asked why they decided to opt out of the CPP-D rate. The following reasons were cited by these customers:

- Unable to shed load or could not shed load without hurting business and/or inconveniencing customers
- Staying on CPP-D rate would yield no savings or not enough savings
- The rate was not well understood or aspects of the rate did not work with the business type

The inability to shed load during events (e.g., hospitals) or the fact that shedding load during events might hurt business or inconvenience customers were by far the most common reasons cited by respondents for opting out of CPP-D. Some respondents also claimed that the CPP-D rate would not produce enough savings or lead to increased energy costs. Other respondents said that their business type was not compatible with the CPP-D rate or said that the rate was too confusing and did not want to risk going on the rate. Lastly, a few respondents said that they opted out of the CPP-D rate because the Air Quality Control Board would not permit them to use their generators during demand response events.

CPP-D Opt-Out online and in-depth survey respondents were also asked what changes were needed in order for their organizations to consider going on the CPP-D rate. Although many Opt-Out respondents (45%) said that they would not be able to go on the CPP-D rate, more than half expressed a willingness to reevaluate their decision to opt-out if certain changes were made. Below are the most frequently cited changes or actions needed that might induce Opt-Out customers to go on the CPP-D rate:

- Reach out to organizations to demonstrate the potential savings of being on CPP-D rate through a detailed billing analysis
- Rate details and benefits need to be explained more thoroughly by Account Executives in order for customers to feel comfortable about going on CPP-D rate
- More flexibility in the amount of load that needs to be shed for organizations that are unable to shed much load during an event; lower penalties during event periods and reduce savings during non-event periods for these organizations

Based on the responses from Opt-Out customers, there is a pool of customers who would be willing to reevaluate their decision to opt out of the CPP-D rate if they had a better understanding of how the rate worked or if an SDG&E representative were to reach out and demonstrate the potential savings of being on the rate through a billing analysis tailored to specific organizations. Another group of customers would be willing to go on a modified CPP-D rate that catered to customers who could shed some load during events, but not enough load to absorb the cost of exposure to higher rates during events. These customers were discouraged from going on the CPP-D rate because of the potential risk involved.

2.8.6.3 Tools Used to Evaluate Potential Savings and Benefits of Demand Response Programs and Rates

Online survey respondents were asked about their use of utility online billing analysis tools as part of their evaluation of the advantages and disadvantages of participating in demand response programs and rates. Use of utility online billing analysis tools was low, particularly among CPP-V respondents (see Table 2-38) with a usage rate of about 20% and BIP at 19% (see Table 2-39) CPP-D respondents (Table 2-40) show the highest rate of usage with just under half of respondents taking advantage of the tool. Among CPP-D Opt-Out customers, more than 40% used the utility online billing analysis tool provided by SDG&E. Online billing analysis tools are not available to CPP-E and SDG&E BIP customers.

Table 2-38: Use of Utility Billing Analysis Tools: CPP-V Online Survey Respondents (PG&E and SCE Only)[26]

	% CPP-V aware of program	N=CPPV aware of program
Yes	20%	16
No	80%	64
Total	100%	80

[26] Because of the large number of responses received during the online surveys and because CPP-E and SDG&E BIP customers did not have access to online billing analysis tools, CPP-V and BIP customers from PG&E and SCE were not asked questions concerning billing analysis tools during the in-depth surveys.

Table 2-39: Use of Utility Billing Analysis BIP Online Survey Respondents (PG&E and SCE Only)

	% BIP aware of program	N=BIP aware of program
Yes	19%	18
No	81%	79
Total	100%	97

Table 2-40: Use of SDG&E Billing Analysis Tools: CPP-D, CPP-D Opt-Out Online Survey Respondents and In-Depth Survey Respondents[27]

	% C-PPD. aware of CPPD rate	N=CPPD aware of CPPD rate	% Opt-Out aware of CPPD rate	N=Opt-Out. aware of CPPD rate
Yes	47%	28	42%	19
No OR ran own analysis	53%	31	58%	26
Total	100%	59	100%	45

Because of the relatively low number of respondents who reported using a utility billing analysis tool, it is difficult to assess the effectiveness of the tool itself. Nevertheless, those respondents who did use the tool found that it was easy to use or helpful.

CPP-D and Opt-Out respondents were asked to judge how difficult or easy their utility billing analysis tools was, and CPP-V and BIP respondents were asked whether or not the billing analysis tool was helpful. Most CPP-D respondents and Opt-Out respondents found the tool to be easy to use and almost all of the CPP-V and all of the BIP respondents said that their billing analysis tool was helpful. However, these results may be skewed, since respondents who did not use utility billing analysis tools were not able to judge the effectiveness of the tools. It is possible that some of the respondents who did not use the billing tools did not feel comfortable using the tools

[27] This table includes online survey respondents and those who participated in the in-depth survey, but did not take part in the online survey.

Table 2-41: Ease/Difficulty of Using SDG&E Billing Analysis Tool: CPP-D, CPP-D Opt-Out Online Survey Respondents and In-Depth Survey Respondents

	% CPP-D who used tool	N=CPPD who used tool	% Opt-Out who used tool	N=Opt-Out who used tool
Easy to use	55%	6	88%	7
Difficult to use	27%	3	0%	0
Don't know	18%	2	13%	1
Total	100%	11	100%	8

Table 2-42: Helpfulness of Billing Analysis Tool: CPP-V Online Survey Respondents (PG&E and SCE Only)

	% CPP-V who used tool	N=CPP-V who used tool
Helpful	88%	14
Not helpful	6%	1
Don't know	6%	1
Total	100%	16

Table 2-43: Helpfulness of Billing Analysis Tool: BIP Online Survey Respondents (PG&E and SCE Only)

	% BIP who used tool	N=BIP who used tool
Helpful	89%	16
Not helpful	0%	0
Don't know	11%	2
Total	100%	18

2.8.7 Demand Response and Energy Efficiency Integration

Respondents[28] were asked whether or not they have participated in any utility energy efficiency (EE) programs as well as the extent of their understanding of integrated demand response and EE communications from the utilities.

2.8.7.1 Participation in Utility Energy Efficiency Programs

Past or current participation by respondents in energy efficiency programs is relatively high across all customer groups. With the exception of CPP-D respondents, each customer group has about an 80% rate of current or past participation in a utility energy efficiency program. Over 60% of CPP-D respondents said that they have participated or are currently participating in an EE program.

Table 2-44: CPP-D and CPP-D Opt- Outs -- Participation in Utility Energy Efficiency Programs

	% CPP-D aware of rate	N=CPP-D. aware of rate	% Opt-Out aware of rate	N=Opt-Out aware of rate
Yes	62%	38	83%	38
No	38%	23	17%	8
Total	100%	61	100%	46

Table 2-45: CPP-V/E -- Participation in Utility Energy Efficiency Programs

	% CPP-V/E aware of program	N=CPP-V/E aware of program
Yes	81%	73
No	19%	17
Total	100%	90

[28] Results in the Demand Response and Energy Efficiency Integration section (2.8.7) include online survey respondents and respondents to the in-depth interviews who did not take part in the online survey.

Table 2-46: BIP -- Participation in Utility Energy Efficiency Programs

	% BIP aware of program	N=BIP aware of program
Yes	78%	90
No	22%	25
Total	100%	115

2.8.7.2 Energy Efficiency and Demand Response Communications

Respondents were asked how well they understand the difference between demand response and energy efficiency. Understanding of DR and EE integration is highest among CPP-D respondents, followed by CPP-D Opt-Out respondents, BIP respondents, and lowest among CPP-V/E respondents.

Table 2-47: CPP-D and CPP-D Opt-Out -- Understand the Difference between DR & EE

	% CPP-D aware of rate	N=CPP-D aware of rate	% Opt-Out aware of rate	N=Opt-Out aware of rate
Very well	88%	36	71%	30
Fairly well	12%	5	24%	10
Not very well	0%	0	5%	2
Don't know	0%	0	0%	0
Total	100%	41	100%	42

Table 2-48: CPP-V/E -- Understand the Difference between DR & EE

	% CPP-V/E aware of program	N=CPP-V/E aware of program
Very well	36%	32
Fairly well	50%	44
Not very well	13%	11
Don't know	1%	1
Total	100%	88

Table 2-49: BIP -- Understand the Difference between DR & EE

	% a BIP aware of program	N=BIP aware of program
Very well	41%	48
Fairly well	52%	60
Not very well	7%	8
Don't know	0%	0
Total	100%	116

With respect to communications from the utilities regarding DR and EE integration, respondents were asked whether or not they felt the utility communications were clear or confusing. The vast majority of respondents found the messages about DR and EE integration to be clear. Confusion about the utility communications regarding DR and EE was highest among CPP-D respondents and CPP-V/E respondents. BIP had the highest number of respondents (78%) who said that utility communications about DR and EE were clear.

Table 2-50: CPP-D and CPP-D Opt-Out -- Utility DR & EE Communications are Clear

	% CPP-D aware of rate	N=CPP-D aware of rate	% Opt-Out aware of rate	N=Opt-Out aware of rate
Clear	63%	27	74%	28
Somewhat confusing	30%	13	13%	5
Very confusing	0%	0	3%	1
Don't know	7%	3	11%	4
Total	100%	43	100%	38

Table 2-51: CPP-V/E -- Utility DR & EE Communications are Clear

	% CPP-V/E aware of program	N=CPP-V/E aware of program
Clear	67%	59
Somewhat confusing	26%	23
Very confusing	2%	2
Don't know	5%	4
Total	100%	88

Table 2-52: BIP -- Utility DR & EE Communications are Clear

	% BIP aware of program	N=BIP aware of program
Clear	78%	91
Somewhat confusing	16%	18
Very confusing	3%	3
Don't know	3%	4
Total	100%	116

Respondents were given the opportunity to suggest ways to improve communications on DR and EE. The two most frequently cited suggestions for improving DR and EE communications were the following:

- More education on the cost savings of energy efficiency and/or better analysis tools to show cost savings
- More information and communications from Account Executives/Account Representatives or other utility representatives.

2.8.8 Demand Response Events

Several demand response program events were called late in the summer of 2009, which gave researchers the opportunity to probe demand response participants about their experiences with the events, including awareness of events, utility communications regarding the event, and the effectiveness of using utility energy management tools. Events were called in 2009 for SDG&E CPP-D customers as well as PG&E CPP-V and BIP customers. Online surveys were sent to PG&E CPP-V and BIP program participants prior to events being called. However, SDG&E CPP-D online survey respondents had the opportunity to respond to questions about events that occurred in August and September of 2009. Furthermore, all in-depth survey respondents who had demand events called in August and/or September of 2009 (this included both SDG&E and PG&E customers) were asked a series of questions about those events.

2.8.8.1 Awareness of 2009 Demand Response Events

Awareness of 2009 demand response events was very high, particularly among CPP-D respondents, who indicated 100% awareness. There was also high awareness among the

PG&E BIP respondents who participated in the interviews with 9 out of the 10 being aware. PG&E's CPP-V respondents who participated in the interviews were less aware with 8 out of 12 being aware.

Table 2-53: Awareness of 2009 Demand Response Events: CPP-D Online Survey Respondents and In-depth Survey Respondents[29]

	% CPP-D aware of rate	N=CPP-D aware of rate
Aware	100%	62
Unaware	0%	0
Total	100%	62

Table 2-54: Awareness of 2009 Demand Response Events: CPP-V In-depth Survey Respondents (PG&E Only)[30]

	% CPP-V - aware of program	N= CPP-V aware of program
Aware	67%	8
Unaware	33%	4
Total	100%	12

Table 2-55: Awareness of 2009 Demand Response Events: BIP In-depth Survey Respondents (PG&E Only)

	% BIP aware of program	N=BIP aware of program
Aware	90%	9
Unaware	10%	1
Total	100%	10

[29] This table includes online survey respondents and in-depth survey respondents who did not take part in the online survey.

[30] In addition to SDG&E CPP-D customers, only PG&E BIP and CPP-V customers had events in 2009. Furthermore, 2009 events occurred after the PG&E BIP and CPP-V online surveys were launched, so there are no results to report on 2009 events from the online surveys for these DR participants.

2.8.8.2 2009 Event Notification

Nearly all respondents who recalled having an event reported receiving an email notification about the event. Secondary means of communication included phone calls, text messages, faxes, and direct communications from Account Executives and Account Representatives.

With respect to customer satisfaction with event communication, almost all respondents were satisfied with event communications.

Table 2-55: Satisfaction with 2009 Event Communications: CPP-D Online Survey Respondents and In-depth Survey Respondents[31]

	% CPP-D aware of events	N=CPP-D aware of events
Satisfied[32]	95%	59
Not satisfied	5%	3
Don't know	0%	0
Total	100%	62

Table 2-56: Satisfaction with 2009 Event Communications: CPP-V In-depth Survey Respondents (PG&E Only)

	% CPP-V aware of events	N= CPP-V - aware of events
Satisfied	88%	7
Not satisfied	0%	0
Don't know	13%	1
Total	100%	8

[31] This table includes online survey respondents and in-depth survey respondents who did not take part in the online survey.

[32] There were 36 online survey respondents. Twenty-four (67%) of those respondents said that they were very satisfied with event notification and 11 (31%) said that they were somewhat satisfied. One respondent (3%) was somewhat unsatisfied with event communication.

Table 2-57: Satisfaction with 2009 Event Communications: BIP In-depth Survey Respondents (PG&E Only)

	% BIP aware of events	N= BIP aware of events
Satisfied	100%	9
Not satisfied	0%	0
Don't know	0%	0
Total	100%	9

Only three CPP-D respondents reported that they were not satisfied with event communication. Respondents were also asked for suggestions in improving event notification. Almost all of the CPP-V respondents said that they were satisfied with event notification and all of the BIP respondents said that they were satisfied.

The most frequently cited suggestions for improving event notifications are listed below:

- Provide ability to notify multiple recipients of events, including adding and removing contacts
- Provide more information in the event notifications; specify whether or not event is a test event and clearly state which demand response participant groups need to respond to event
- Provide earlier notification for events, if possible

CPP-D respondents, in particular, cited the need for the ability to notify multiple contacts in the organization prior to events. PG&E CPP-V respondents also mentioned this need. Respondents from all customer groups said that they wanted more detailed information in the event notifications. In one instance, a PG&E BIP respondent stated that he had shut down operations and sent workers home at considerable costs before finding out the event was just a test. Lastly, several CPP-D respondents said that earlier event notification would be beneficial.

2.8.8.3 Usage and Effectiveness of Energy Management Tools during Events

Customer usage of utility Energy Management Tools (EMT) during 2009 demand response events was not especially high, particularly among PG&E CPP-V and BIP respondents. Slightly

more than half of CPP-D respondents reported using the SDG&E EMT during events. Only 2 CPP-V respondents and 3 BIP respondents said that they used the PG&E EMT during events.

Table 2-58: Usage of Energy Management Tool during Events: CPP-D Online Survey Respondents and In-depth Survey Respondents[33]

	% aware of CPP-D event	N= aware of CPP-D event
Used EMT	52%	32
Did not use EMT	48%	30
Total	100%	62

Table 2-59: Usage of Energy Management Tool during Events: CPP-V In-depth Survey Respondents (PG&E Only)

	% PGE CPP-V aware of event	N=PGE CPPV aware of event
Used EMT	25%	2
Did not use EMT	75%	6
Total	100%	8

Table 2-60: Usage of Energy Management Tool during Events: BIP In-depth Survey Respondents (PG&E Only)

	% PGE BIP aware of event	N= PGE BIP aware of event
Used EMT	33%	3
Did not use EMT	67%	6
Total	100%	9

Respondents who used their utility EMT were asked whether or not they considered it an important feature in an EMT to see energy usage the same day as opposed to the next day. Nearly 90% of CPP-D EMT users said that seeing their energy usage the same day as opposed to the next day was an important feature of the SDG&E EMT. There were not enough PG&E

[33] This table includes online survey respondents and in-depth survey respondents who did not take part in the online survey.

CPP-V or BIP users who used the PG&E EMT to do an analysis of the same day energy usage feature.

Table 2-61: Importance of Real-Time Data: CPP-D Online Survey Respondents[34] and In-depth Survey Respondents[35]

	% CPP-D who use EMT	N=CPPD who use EMT
Important	89%	32
Not important	11%	4
Total	100%	36

On the effectiveness of the energy management tools, all 32 of the CPP-D respondents who used the SDG&E EMT during events found it to be helpful.[36] With respect to suggestions among CPP-D EMT users for improving the tools, having real-time energy usage data was the most common suggestion for improving the SDG&E EMT. Other CPP-D respondents mentioned that the EMT was complex and they wanted more training using it or felt that their AE needed more training on the tool in order to help CPP-D customers use the EMT.

2.8.8.4 Reduction in Energy Consumption during 2009 Events

The vast majority of respondents reported that they reduced their energy consumption during 2009 events. More than 80% of CPP-D respondents reduced their energy consumption during events. All of the PG&E CPP-V and BIP respondents reduced their energy consumption during 2009 events.

[34] There were 22 online survey respondents who used the SDG&E EMT. Nine (41%) of those respondents said that they considered the ability to see energy consumption the same day as an event "very important" and 12 (31%) considered this EMT feature "somewhat important." One online survey respondent (5%) considered this feature "not very important."

[35] This table includes online survey respondents and in-depth survey respondents who did not take part in the online survey.

[36] Of these 32 respondents, 18 participated in the online survey; 9 of the online survey respondents found the SDG&E EMT "very helpful" and 9 found the tool "somewhat helpful."

Table 2-62: Reduced Energy Consumption during 2009 Events: CPP-D Online Survey Respondents and In-depth Survey Respondents[37]

	% CPP-D aware of events	N=CPP-D aware of events
Reduced energy consumption	82%	51
Did not reduce energy consumption or don't know	18%	11
Total	100%	62

Table 2-63: Reduced Energy Consumption during 2009 Events: CPP-V In-depth Survey Respondents (PG&E Only)

	% CPP-V online survey non-respondents aware of events	N=CPPV online survey non-respondents aware of events
Reduced energy consumption	100%	5
Did not reduce energy consumption or don't know	0%	0
Total	100%	5

Table 2-64: Reduced Energy Consumption during 2009 Events: BIP In-depth Survey Respondents (PG&E Only)

	% PG&E BIP online survey non-respondents aware of events	N=PG&E BIP online survey non-respondents aware of events
Reduced energy consumption	100%	6
Did not reduce energy consumption	0%	0
Total	100%	6

[37] This table includes online survey respondents and in-depth survey respondents who did not take part in the online survey.

Respondents who reduced their energy consumption during events were asked how they achieved a reduction in consumption. Most CPP-D respondents said that their organization reduced load, but did not shut down operations altogether (10% of CPP-D respondents reported that their organizations shut down all operations). The most frequently cited means of reducing energy consumption were turning down the air conditioner or fan and turning off some lights. More than half of respondents also said that they used less of some other equipment, which was part of their organization's operations.

Table 2-65: Means of Reducing Energy Consumption during 2009 Events: CPP-D Respondents[38]

	% CPP-D who reduced energy during event[39]	N=who reduced energy during event
Turned down the air conditioning/fan	78%	40
Turned off some lights	76%	39
Used less of other equipment	51%	26
Turned off other equipment	39%	20
Turned off the air conditioning/fan	16%	8
Shut down some of our operations	14%	7
Shut down all of our operations	10%	5
Turned off all the lights	4%	2
Other	35%	18
Total		51

Among the 5 PG&E CPP-V in-depth survey respondents who said that they reduced energy during events, 3 said that they achieved energy reduction by turning down the AC or fan and 3 said that they achieved reduction by turning off some lights. Among the 8 PG&E BIP in-depth

[38] This table includes online survey respondents and in-depth survey respondents who did not take part in the online survey.

[39] Because respondents could have achieved energy consumption reduction through multiple means, totals do not equal 100%.

respondents who said that they reduced energy consumption during events, none reported that they turned down the AC or fan and 2 said that they turned off some lights. Three BIP respondents said that they shut down some operations and 2 said that their organization shut down all operations,

Respondents who reduced energy during demand response events were asked whether or not they reduced their energy consumption to the level they had expected.

Table 2-66: Energy Reduction Goals during 2009 Events: CPP-D Online Survey Respondents and In-depth Survey Respondents[40]

	% CPP-D who reduced consumption	N=CPP-D - who reduced consumption
Met or exceeded reduction goals	41%	21
Did not meet reduction goals	25%	13
Don't know	33%	17
Total	100%	51

Slightly more than 40% of CPP-D respondents who reduced their energy consumption during events reported that they met or exceeded their energy reduction goals. A quarter of CPP-D respondents did not meet their reductions goals and a third did not know if they met their organizations' reduction goals. With respect to PG&E CPP-V and BIP respondents who reduced their energy consumption during events, 3 out of 5 CPP-V respondents and all 6 of BIP respondents met their energy reduction goals.

Respondents who reduced energy during demand response events were also asked if events had any impact on their organizations' operations. Fifty-five percent of CPP-D respondents (28 out of 51) said that events did have an impact on their operations.

Two out of 5 PG&E CPP-V respondents said that events had an impact on their operations and 4 out of 6 PG&E BIP respondents said that the events had an impact.

[40] This table includes online survey respondents and in-depth survey respondents who did not take part in the online survey.

The most frequently cited impact to operations was that events inconvenienced employees and had some financial effect on operations. Some respondents, including CPP-D and PG&E BIP respondents said that they had to shut down their operations completely and send employees home.

2.8.8.5 Preparation for Events

Researchers asked all 74 in-depth survey respondents a series of questions about event preparation that their organizations had done or might need to do in order to plan for events. Nearly all respondents were aware that they would need to shed load during a demand response event and had a sense of the measures needed to curtail load during an event. The measure respondents mentioned the most for responding to an event was to shut down or reduce use of equipment at the organization's site. A smaller number of respondents said their organizations planned a complete shutdown of operations or shift to an onsite generator in order to respond to an event. Participants who had the capacity to shut down operations completely or switch to back-up generation tended to be enrolled in BIP (5 BIP respondents from PG&E, 2 from SCE, and 2 from SDG&E). There was one CPP-V respondent and 2 CPP-D respondents who cited a capacity to shut down from the grid completely.

Most organizations said that they already had measures in place in order to respond to an event, such as automated building controls or backup generation. A breakdown by rate/program and utility on existing measures to prepare for events is provided in the tables below.

Table 2-67: Measures in Place to Respond to Events: CPP-D In-Depth Respondents

		Yes		No		Total	
Rate	Utility	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N=CPP-D aware of rate
CPP-D	SDG&E	65%	20	35%	11	100%	31

Table 2-68: Measures in Place to Respond to Events: CPP-V/E In-Depth Respondents

		Yes		No		Total	
Program	Utility	% CPP-V/E aware of program	N=CPP-V/E aware of program	% CPP-V/E aware of program	N=CPP-V/E aware of program	% CPP-V/E aware of program	N=CPP-V/E aware of program
CPP-E	SDG&E	50%	2	50%	2	100%	4
CPP-V	PG&E	58%	7	42%	5	100%	12
Total		56%	9	44%	7	100%	16

SCE and SDG&E BIP were the only customer groups that had fewer than half of their respondents who reported that their organizations already had measures in place in order to prepare for an event.

Table 2-69: Measures in Place to Respond to Events: BIP In-Depth Respondents

		Yes		No		Total	
Program	Utility	% BIP aware of program	N=BIP aware of program	% BIP aware of program	N=BIP aware of program	% BIP aware of program	N=BIP aware of program
BIP	SDG&E	40%	2	60%	3	100%	5
BIP	SCE	25%	3	75%	9	100%	12
BIP	PG&E	80%	8	20%	2	100%	10
Total		48%	13	52%	14	100%	27

In-depth survey respondents were also asked whether or not they felt they needed to do more in advance in order to prepare for events. More than three-quarters of respondents felt that their organization did not need to do more in order to prepare for events. Among those respondents who did feel that more needed to be done, several said that better equipment would be helpful for event preparations, such as automated lighting or HVAC controls. Others said that more employee training in responding to an event would be helpful. Still others felt that more experience with events would make their organization better able to respond to events.

Table 2-70: Need to Do More in Advance to Prepare for Events: CPP-D In-Depth Respondents

		Yes		No		Total	
Rate	Utility	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N= CPP-D aware of rate
CPP-D	SDG&E	23%	7	77%	24	100%	31

Table 2-71: Need to Do More in Advance to Prepare for Events: CPP-V/E In-Depth Respondents

		Yes		No		Total	
Program	Utility	% CPP-V/E aware of program	N=CPP-V/E aware of program	% CPP-V/E aware of program	N=CPP-V/E aware of program	% CPP-V/E aware of program	N=CPP-V/E aware of program
CPP-E	SDG&E	25%	1	75%	3	100%	4
CPP-V	PG&E	42%	5	58%	7	100%	12
Total		38%	6	63%	10	100%	16

Table 2-72: Need to Do More in Advance to Prepare for Events: BIP In-Depth Respondents

		Yes		No		Total	
Program	Utility	% BIP aware of program	N=BIP cust. aware of program	% BIP aware of program	N=BIP aware of program	% BIP aware of program	N=BIP aware of program
BIP	SDG&E	20%	1	80%	4	100%	5
BIP	SCE	25%	3	75%	9	100%	12
BIP	PG&E	10%	1	90%	9	100%	10
Total		19%	5	81%	22	100%	27

Researchers asked respondents whether their respective utilities helped prepare their organization for demand response events. Roughly two-thirds of all in-depth survey participants said that their organization received assistance from their utility in order to prepare for events. CPP-V/E respondents had the highest rates of utility assistance to prepare for events at 75% and BIP respondents had the lowest rates at 56%. In terms of the types of assistance customers received, most respondents said that their Account Executive or Account Representative helped their organization with event preparation. A smaller number of respondents said they received tools and equipment from their utility in order to prepare for events.

Table 2-73: Receive Utility Assistance in Order to Prepare for Events: CPP-D In-depth Respondents

		Yes		No		Total	
Rate	Utility	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N=CPP-D aware of rate
CPP-D	SDG&E	65%	20	35%	11	100%	31

Table 2-74: Receive Utility Assistance in Order to Prepare for Events: CPP-V/E In-depth Respondents

		Yes		No		Total	
Program	Utility	% CPP-V/E aware of program	N=CPP-V/E aware of program	% CPP-V/E aware of program	N=CPP-V/E aware of program	% CPP-V/E aware of program	N=CPP-V/E aware of program
CPP-E	SDG&E	75%	3	25%	1	100%	4
CPP-V	PG&E	75%	9	25%	3	100%	12
Total		75%	12	25%	4	100%	16

Table 2-75: Receive Utility Assistance in Order to Prepare for Events: BIP In-depth Respondents

		Yes		No		Total	
Program	Utility	% BIP aware of program	N=among BIP aware of program	% BIP aware of program	N= BIP aware of program	% BIP aware of program	N=BIP aware of program
BIP	SDG&E	20%	1	80%	4	100%	5
BIP	SCE	75%	9	25%	3	100%	12
BIP	PG&E	50%	5	50%	5	100%	10
Total		56%	15	44%	12	100%	27

When asked whether or not their organization would make any changes to prepare for future events, less than a third of all demand response participants who took part in-depth survey said that they would make changes to plan for future events. CPP-D had the highest rate of respondents who said that they would make changes in order to prepare for events and BIP customers had they lowest rate among DR participant groups.

Table 2-76: Make Any Changes to Prepare for Future Events?: CPP-D In-depth Survey Respondents

		Yes		No		Total	
Rate	Utility	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N=CPP-D aware of rate	% CPP-D aware of rate	N= CPP-D aware of rate
CPP-D	SDG&E	45%	14	55%	17	100%	31

Table 2-77: Make Any Changes to Prepare for Future Events?: CPP-V/E In-depth Survey Respondents

		Yes		No		Total	
Program	Utility	% CPP-V/E aware of program	N=CPP-V/E aware of program	% CPP-V/E aware of program	N= CPP-V/E aware of program	% CPP-V/E aware of program	N=CPP-V/E aware of program
CPP-E	SDG&E	25%	1	75%	3	100%	4
CPP-V	PG&E	25%	3	75%	9	100%	12
Total		25%	4	75%	12	100%	16

Table 2-78: Make Any Changes to Prepare for Future Events?: BIP In-depth Survey Respondents

Program	Utility	% BIP aware of program	N= BIP aware of program	% BIP aware of program	N= BIP. aware of program	% BIP aware of program	N= BIP aware of program
BIP	SDG&E	20%	1	80%	4	100%	5
BIP	SCE	33%	4	67%	8	100%	12
BIP	PG&E	0%	0	100%	10	100%	10
Total		19%	5	81%	22	100%	27

Among those customers who plan on making changes in order to respond to future demand response events, several expressed an interest in getting more information and advice from their utility in order to help them prepare for future events. For those respondents who had specific measures in mind, some said that they would offer their employees more training, change or modify their equipment, or be more aggressive with reducing load during events.

Researchers asked respondents whether or not they would like technical assistance from their utility in order to help them respond to events. Only a third of respondents said that that they would like utility assistance. The most frequently cited types of assistance sought by respondents are listed below:

- General information from the utility on curtailment opportunities and curtailment information tailored to individual organizations
- Assistance from utility with replacing older equipment at organization
- On-site evaluations/audits provided by utility

Some CPP-D respondents also said that they wanted training from SDG&E on using their online energy management tool.

2.8.9 Backup Generators and Demand Response

All respondents to the online survey who were aware of their respective rate or program participation and in-depth survey respondents who did not take part in the online survey were asked whether or not they had a backup generator on site (see tables 2-79, 2-80, 2-81 below). Those customers who reported having backup generators were asked a follow-up question about whether or not they used the backup generator to respond to a demand response event (see tables 2-82, 2-83, 2-84 below).

Table 2-79: Backup Generator on Site?: CPP-D

	% CPP-D aware of rate	N= CPP-D aware of rate
Yes	52%	32
No	48%	30
Total	100%	62

Table 2-80: Backup Generator on Site?: CPP-V/E

	% CPP-V/E aware of program	N= CPP-V/E aware of program
Yes	48%	43
No	52%	47
Total	100%	90

Table 2-81: Backup Generator on Site?: BIP

	% BIP aware of program	N= BIP aware of program
Yes	39%	45
No	61%	71
Total	100%	116

Less than half of all respondents (45%) reported that their organization had a backup generator on site. Slightly more than half of CPP-D respondents (52%) said that they had a backup

generator on site compared with 48% of CPP-V/E respondents and 39% of BIP respondents who said that their organization had a backup generator on site.

Table 2-82: Used Backup Generator to Respond to DR Event?: CPP-D

	% CPP-D cust. with generator	N= CPP-D cust. with generator
Yes	16%	5
No	84%	27
Total	100%	32

Table 2-83: Used Backup Generator to Respond to DR Event?: CPP-V/E

	% CPP-V/E cust. with generator	N= CPP-V/E cust. with generator
Yes	7%	3
No	93%	40
Total	100%	43

Table 2-84: Used Backup Generator to Respond to DR Event?: BIP

	% BIP cust. with generator	N= BIP cust. with generator
Yes	60%	27
No	40%	18
Total	100%	45

Less than a third of all respondents (29%) reported that their organization used a backup generator to respond to an event. BIP respondents reported the highest rate of use of a backup generator to respond to an event at 60%. Only 3% of CPP-V/E respondents and 16% of CPP-D respondents said that their organization has previously used a backup generator to respond to a demand response event.

2.8.10 General Suggestions for Improving Programs and Rates

Respondents were given the opportunity to make general suggestions for improving the demand response rates or programs. The top three suggestions for improving rates and programs are listed below.

- More information and contact with Account Executives or Account Representatives
- Simplify the programs or rates and/or allow more flexibility in programs and rates to increase participation
- Improve energy management tool and/or billing analysis tools in order to make energy and billing data more accessible to customers

Customers from CPP-D, CPP-V, and BIP all cited more contact from their Account Executives or Account Representatives as a means of improving their respective rate or program. CPP-D customers in particular said that simplifying the rate would improve CPP-D overall. Improvements in utility energy management tools and billing analysis tools were cited by CPP-D, CPP-V, and BIP respondents as a way to make energy and billing data more accessible to customers and improve the rates or programs overall.

2.9 Conclusions and Recommendations

This section summarizes lessons learned from the online and in-depth interviews regarding customers' perceptions, expectations and satisfaction with the Demand Response rates and programs and provides recommendations for improving rates and programs going forward.

2.9.1 Understanding of the CPP-D Rate

- Among CPP-D Opt-Out respondents, 11% believe that they needed to shut down operations entirely in order to be on the CPP-D rate. Improvements in SDG&E communications regarding this aspect of the CPP-D rate would help correct this misunderstanding.
- With respect to the Capacity Reservation Charge 42% of CPP-D respondents and 40% of Opt-Out respondents do not understand the CRC. Better communications and marketing about the CRC are needed from SDG&E.

2.9.2 Bill Protection

- 90% of CPP-D customers considered bill protection at least somewhat important in influencing their decision to remain on the CPP-D rate. Market bill protection to Opt-Out customers as a means of increasing the number of customers on CPP-D.

2.9.3 Communication

Roughly one in five CPP-D and Opt-Out customers is not satisfied with communications about the CPP-D rate. Suggestions from CPP-D customers and CPP-D Opt-Out customers for improving communications from SDG&E on the CPP-D rate are:

- Provide more education for new customers and follow-up education for existing customers on CPP-D rate
- The rate needs to be less complicated and Account Executives need to be better educated about the rate in order to provide clearer information to customers
- Provide more tools and information about the pros and cons of being on CPP-D rate, including a year end report on an organization's performance and/or reports on performance during an demand response event

CPP-D Opt-Out respondents also suggested the following:

- SDG&E should run comprehensive billing analyses for potential CPP-D customers in order to emphasize potential savings

CPP-V and BIP customers had similar suggestions for improving utility communications about the program:

- Provide more education for new customers and follow-up education for existing customers on programs
- Programs should be simplified; penalties and savings need to be summarized and easier to understand
- Year-end report/details on organizations performance during year and during an event

2.9.4 CPP-D Opt-Out Customers: Actions Needed to Switch to CPP-D Rate

Below are the most frequently cited changes or actions needed that might induce Opt-Out customers to go on the CPP-D rate:

- Reach out to organizations to demonstrate the potential savings of being on CPP-D rate through a detailed billing analysis

- Rate details and benefits need to be explained more thoroughly by Account Executives in order for customers to feel comfortable about going on CPP-D rate

- More flexibility in the amount of load that needs to be shed for organizations that are unable to shed much load during an event; lower penalties during event periods and reduce savings during non-event periods for these organizations

With respect to the last recommendation, this group of customers might be more likely to join CPP-D if they had a better understanding of the CRC, which could potentially limit the amount of curtailment needed for these organizations during an event.

2.9.5 Demand Response and Energy Efficiency Integration

CPP-D, CPP-D Opt-Out, CPP-V/E, and BIP Respondents generally had a good understanding of the difference between DR and EE, but had the following suggestions for improving DR and EE communications.

- More education on the cost savings of energy efficiency and/or better analysis tools to show cost savings

- More information and communications from Account Executives or other utility representatives.

2.9.6 Demand Response Event Notification

The most frequently cited suggestions among CPP-D, PG&E CPP-V and BIP respondents for improving event notifications are listed below:

- Provide ability to notify multiple recipients of events, including adding and removing contacts

- Provide more information in the event notifications; specify whether or not event is a test event and clearly state which demand response participant groups need to respond to event

- Provide earlier notification for events, if possible

CPP-D and PG&E CPP-V respondents cited the need for the ability to notify multiple contacts at an organization prior to events. Respondents from all three DR customer groups said that they wanted more detailed information on the event notifications, including multiple BIP respondents. Lastly, several CPP-D respondents said that earlier event notification would be beneficial.

2.9.7 Suggested Improvement for SDG&E Energy Management Tools

Below is a list of the most frequently cited customer suggestions for improving the EMT:

- Provide real-time energy usage data
- Provide more training on using the EMT to customers and/or Account Executives

There were not enough suggestions from PG&E CPP-V and BIP EMT users to include in this list of recommendations.

2.9.8 Technical Assistance For Responding to DR Events

CPP-D, CPP-V/E, and BIP respondents had the following suggestions for utility assistance in responding to demand response events:

- General information from the utility on curtailment opportunities and curtailment information tailored to individual organizations
- Assistance from utility with replacing older equipment at organization
- On-site evaluations/audits provided by utility

CPP-D also said that they wanted more training on using the SDG&E Energy Management Tool.

3. Conclusions and Recommendations

This section summarizes overall key findings from the process evaluation and provides recommendations for program improvement going forward.

3.1 Conclusions

Face-to-face contact along with follow-up to answer questions appears to be the most successful way to promote DR programs. It also helps to present customers with visual explanations (e.g. charts and graphs) and analysis that demonstrates the rate impacts of different scenarios. This will help a customer understand how a tariff could potentially impact their bill and provide guidance on which tariff to enroll in.

The biggest barrier to customer participation in DR is related to concerns that curtailing load would impact the customers' core business functions. To engage customers on DR strategies, IOUs need to first fully understand what these core business functions are and then figure out what load reduction strategies will work within those constraints.

Another barrier to customer participation is the "structural barrier" where customers have difficulties with dropping load due to the type of business or operations they run. Types of customers with structural barriers include: hospitals, property management offices (may conflict with tenant contracts), some food processors (due to short season to complete their work); oil refineries (have to run around the clock and incentives are too small for shifting load), and data centers and Telecommunications (must also be on around the clock). As such, IOUs will need to target customers with high load factors and constant loads who do not fall into these categories. These customers tend to not have to drop much load for DR to be beneficial.

Access to experts such as those with the TA/TI program is ideal since they will have more knowledge about facility processes and organizational barriers. There are multiple considerations (e.g. staff time, production schedule, costs) that must be evaluated to identify strategies to reduce load during peak periods, in addition to technical potential. For instance, staffing considerations are found to be extremely important, as companies do not want their staff to be idle during a DR event; so plans for responding to events must include strategies for re-organizing employee work, in addition to the technical strategies.

Finally, lack of an energy management system (EMS) is a key barrier to participation. Having an EMS would be very beneficial for customers that have multiple sites because then the facility manager would not have to go from building to building to adjust thermostats and other settings.

3.1.1 Base Interruptible Program

The primary success of BIP is due to how attractive the program is to large customers. Customers are attracted to BIP because there is low risk of an event occurring matched with large incentives. Customers stand to earn sizeable monthly credits for participating in the program. However, the penalties are also substantial if during an event the customer fails to meet its commitment level.

There is a concerned that the introduction of the new "pre-Stage 1" trigger may result in more events than in the past. So far, only two IOUs have called BIP events in the past two years. Program managers are concerned that if more events occur, customers may reassess the risk/reward balance for participating in the program and decide the risk is too great.

To date, only PG&E has had some success with working with aggregators to recruit customers to their program. Program managers attribute the lack of success using aggregators to the very high threshold aggregators need (at least 1 MW of load) before incentives kick-in.

A key success factor for PG&E has been to provide customers with customized reports on how they performed during an event. This information includes their monthly incentive, and whether they met their commitment level and an explanation for a penalty if it occurs and how the calculation was done. According to PG&E, customers have responded very well to receiving the reports.

The SCE BIP program manager attributes recruiting success to account executives that are there for their customers. These AEs basically hold customers' hands and help them through the analysis, showing them what they can do to reduce load. SCE is looking to make this an ongoing standard for how AEs interact with customers.

SDG&E attributes success to: having program consistency (BIP has been around for a long time), having very few events, the capacity discount, availability of the KWickview tool, monthly communications with the customer, and good program operations (i.e., customer knows how to react when notified of an event.)

3.1.2 CPP-V

When it comes to recruiting, the relationship the account executive has with the customer makes all the difference. PG&E's enrollment suffered in 2008 when after reorganization they lost their most seasoned AEs. PG&E has taken steps to rebuild manpower by training the less

experience account executives, yet they continue to see defections from their program as customers migrate to the Aggregator Managed Portfolio program.

SCE experienced a more positive outcome due to account executive recruiting efforts in 2008. By arming AEs with results from a billing analysis that identified probable program benefiters (i.e., TOU-8 customers), coupled with a targeted marketing campaign, the SCE CPP-V program saw a huge increase of 349% in enrollments versus the previous year.

Another key factor to program success is to not make the program complicated and to not overwhelm the customer with too much information. The program should be easy for the customers to understand; too much information could be a barrier to decision making. It also helps to have a help desk with well trained customer service reps that can answer customer and AE questions.

3.1.3 CPP Rollout Lessons Learned

The SDG&E Program staff identified many administrative challenges regarding the roll-out that could have been managed more efficiently if there had been enough time for proper planning and research. SDG&E began planning in December 2007 and customers were defaulted in May 2008. Many of the challenges had to do with internal communications across departments when it came to customer eligibility; scheduling and collecting customer information; customer communications, and program design impact on customers. Some key lessons learned from this experience include:

- Ensuring that the parameters for customer eligibility are clear and that eligibility is easy to determine using existing utility data. Without this consistency, SDG&E had to update the eligibility list several times as enrollment criteria change based on input from multiple departments.
- Bear in mind how the rate will impact customers, not just accounts, and consider conducting customer research on the rate design. Setting eligibility at the meter/account level can make decision-making at all levels very difficult for customers with multiple accounts, especially if each account has different dates for eligibility, etc.
- Tie deadlines together – CRC election and opt-out. Also, to prevent having to re-bill customers, should schedule event season to begin after CRC and opt-out deadlines.

AEs struggled to develop a clear and consistent message to deliver to their customers due to the complicated nature of the tariff and the short time period for educating customers. As a

result, AEs were very hands-on with their customers, meeting face-to-face with many of them and staying in touch regularly via phone and email with updates and new information. This approached work well for large customers, but this can be a very labor intensive approach for mass markets. If AES are to use this approach, they will need to have a longer lead time and will need to develop easier to understand customer communications.

The online tools that were made available to customers were inflexible and required a lot of assistance from AEs. There were also major issues with KWickview allowing only one customer contact name on the account, (which is usually the first person to sign the company up for My Account, no matter that the person may have signed up a month or several years ago.) The tool is also inefficient in that it allows customers to view only one account at a time even though many large customers may have hundreds of accounts. Also, customers could not view data in KWickview in real-time during events; they only had access to historic data

Overall, the IOUs expressed mixed results in preparing for the CPP-D roll-out. SDG&E AEs complained about the confusing program structure and multiple deadlines with very little time to prepare. So far, SCE reps indicated the roll-out occurred smoothly. PG&E is getting feedback from customers indicating there are still many questions and possibly negative perceptions based on the initial communications; indicating the need for ongoing education and communication.

3.1.4 Customer Interviews

Overall, DR participants generally find utility communications about programs to be satisfactory. However, there was some dissatisfaction when it came to specific communications about SDG&E's CPP-D tariff. Both the CPP-D participants and Opt-out who were not satisfied (about 20% each) found the communications about the CPP-D rate in general confusing; and a larger percent (40%) found the Capacity Reservation Charge, difficult to understand.

CPP-D Opt-Out customers said that they would be more likely to go on the CPP-D rate if they had a better understanding of the rate and the potential benefits. Some of these customers would be satisfied with more contact with an AE or other SDG&E representative to help them gain a better understanding of the CPP-D rate, while others would prefer to see a detailed billing analysis to demonstrate the possible savings. These findings are consistent with comments made by program staff and AEs on the value customers have in face-to-face contact with their reps and the desire for more analysis.

DR respondents from all programs and tariffs generally had a good understanding of the difference between demand response and energy efficiency. Here again, they express how the

IOUs could improve communications on the concepts and advantages of DR and EE with greater contact from Account Executives or Account Representatives.

With respect to demand response events, DR respondents from all programs were generally satisfied with event notifications. However, respondents echoed observations made by the program staff and AE, regarding the problem of not being able to notify multiple contacts at an organization prior to an event. Respondents from each program/tariff also stated that more detail on the reason for the event would be helpful.

3.2 Recommendations

Following are recommendations for improving program management in regards to design and tools, and for marketing and communications. Also follows are recommendations and lessons learned from SDG&E's experience with rolling out the CPP-D tariff.

3.2.1 Program Management, Design and Tools

- **Improve technical support services to help customers identify opportunities to reduce energy load**. Suggestions include increasing energy audits, clearly explain measures, producing written reports and requiring oral presentation with key site stakeholders. The TA/TI program should be revived for PG&E and used to assist customers with identifying opportunities and offering incentives for necessary equipment upgrades to facilitate DR participation.

- **Ensure that participation in DR programs include a strong component to assist customers with identifying curtailment measures and incentives for controls**. When customers sign up for DR programs, they should automatically receive an energy audit as a component for participation. Also assist customers to take advantage of available energy efficiency rebates for Energy Management Systems.

- **Keep things simple as possible.** BIP is simple and easy to understand. Seek to design the CPP-Default tariff to be as simple as possible. Consider re-naming (or excluding) the capacity reservation charge component of the tariff.

- **Leverage multiple channels to inform customers of CPP-Default.** Since customers are often preoccupied with their principal job functions, marketing efforts require persistence.

- **Continue efforts to integrate DR/EE to increase customer options for programs.** AEs like having different program options to present to customers. The variety enables AEs to find programs to best suit customer needs and address concerns related to risk, flexibility and ability to choose level of curtailment commitment.

- **Provide participating DR customers with feedback on their performance.** AEs and program staff are currently providing this on an ad hoc basis. This type of feedback is valuable to customers, both to inform them of successful (and not successful) attempts and validate the financial benefits of participation. Customers in particular would like to receive year-end reports, which detail their performance during the year and during events.

- **Add enhancements to the online tools (notification tools and customer load analysis tools)**. Allow customers the ability to register more than one contact name for notification of events; allow the tool to cover multiple customer accounts; develop benchmarks by customer type/segment so customers can view likely scenarios for their type of business; allow for extrapolation of prior data so customers with less than twelve months of data can still benefit from the tools, even if only to a limited extent; make interval data available to view live during an event for CPP customers.

3.2.2 Marketing, Outreach and Communications

- **Use billing analysis that identifies customers who are likely to benefit from DR programs** to generate recruiting prospect lists. Provide marketing support with targeted messaging for key segments.

- **IOUs should target the following types of customers whom seem to be more successful in DR programs:**

- **Customers with high load factor.** Customers with high load factors can see significant financial benefits on the CPP rate. For facilities that are required to operate 24-7 (e.g. data centers) dropping load during DR events can present significant challenges. These customers are usually unable to shift load to nights or weekends because their energy demand is relatively constant with little or no down time. As such, facilities are exposed to higher CPP event rates if there are numerous events called in a given year. However, the rate savings these customers receive during non-event days typically offset higher rates paid during events, even when load cannot be shed.

- **Customers with batch processes.** Some industrial customers have more flexibility with their production schedule during these economic times. For instance, rock crushing operations can build up extra inventory, so that a DR event will not impact their production schedule. Similarly, another manufacturer of plastic vegetable totes have found that they can build inventory instead of "just in time" approach, so they can now afford to shut down for DR events. For timber mills, some operations (such as de-barking logs) can be completed prior to the peak period when notified.

- **Customers with standby generators.** Several AEs mentioned that customers with their own standby generators can participate in DR programs. Although this raises issues related to air quality concerns, for the purposes of grid reliability, this is an effective strategy to respond to DR events. Timber mills, water agencies, and some commercial/industrial operations have standby generators. When evaluating whether to participate in a DR program, however, customers must factor in additional standby generator operating costs.

- **Provide examples of successful customers** (e.g. similar customer types, peers, competitors). A couple of AEs found that high tech accounts were motivated when they heard about their peers successfully participating in DR programs.

- **IOUs need to simplify communications to customers** about programs and rates and should summarize information on penalties and savings so they are easy to understand. Communications should strive to educate new customers and provide continuing education for existing customers.

3.2.3 CPP-D Rollout

- Allow for adequate internal planning and customer research time (at least one year.) Make sure all departments involved in the implementation and operations for delivering CPP-D are included in the planning. This should include billing, rates, customer service, business customer service (AEs), marketing, and energy efficiency. Develop coordination plans for working across departments.

- Automate internal customer processing, or at least make the forms very easy to data enter. Also consider online customer enrollment.

- Determine the rules and process for establishing customer eligibility ahead of time, addressing major issues such as customers with multiple accounts and allowing enough

time to develop a final eligible customer list before the roll-out; develop procedures for continuously updating the customer eligibility list.

- Develop program/rate policies and procedures well in advance of the roll-out
- To minimize possible increase in opt-outs due to increase in events, establish ongoing communications plans to keep customers informed and provide suggestions/recommendations for how to prepare for an event.
- Provide customized billing analysis to individual organizations that demonstrate the potential savings of being on the CPP-D rate.
- AEs need to explain rate details and benefits thoroughly in order for customers to feel comfortable about going on CPP-D rate. This particularly true for SDG&E's Capacity Reservation Charge where customers can limit their exposure to the higher rates during events. SDG&E's should explain this mechanism to potential CPP-D customers as thoroughly as possible

4. Appendix A – Online Surveys

4.1 BIP, CPP-V, CPP-E Online Surveys

RESPONDENT CHARACTERISTICS AND DEMAND RESPONSE PROGRAM ENROLLMENT

P1. Our records indicate that your organization is enrolled in [PROGRAM]. This is [a/an UTILITY]-sponsored Demand Response program. Are you aware that your organization is enrolled in [PROGRAM]?

1	Yes	P3
2	No	Prompt
99	Don't know	Prompt

[IF PROGRAM=BIP]

Prompt:

[BIP] The Base Interruptible Program is a type of demand response program that offers customers monthly incentives in exchange for agreeing to reduce electricity use to a pre-determined level during times of peak demand.

[IF PROGRAM=CPP-V OR CPP-E]

Prompt:

Critical Peak Pricing offers customers rate discounts for shifting or reducing electricity use during times of peak demand.

P2. Now do you recall being enrolled in the [PROGRAM]?

1	Yes	P3
2	No	Prompt
99	Don't know	Prompt

Prompt:

In the interest of improving [PROGRAM], we would like to ask you to forward this email to the person most knowledgeable about energy usage in your organization. [Terminate]

P3. Why did your organization choose to enroll in [PROGRAM]?

1	Program incentives	P11
2	Low risk	P11
3	My account representative/Account Executive recommended it	P11
77	Other, Specify_____	P11
99	Don't know	P11

P11. What is your job title?

1	Facilities Manager	M1
2	Energy Manager	M1
3	Other facilities management/maintenance position	M1
4	Chief Financial Officer	M1
5	Other financial/administrative position	M1
6	Proprietor/Owner	M1
7	President/CEO	M1
8	Plant Manager	M1
9	Controller	M1
10	Engineer	M1
11	Operations	M1
77	Other (Specify)	M1
99	Don't Know	M1

MARKETING AND COMMUNICATION

M1. How did you first learn about [PROGRAM]? (select all that apply)

1	Pamphlet/Mail from [utility]	M2
2	Email communication from [utility]	M2
3	[Utility] website	M2
4	Phone call from program manager	M2
5	Phone call/meeting with [utility] account representative/account executive	M2
6	[Utility] presentation	M2
77	Other, Specify_____	M2
99	Don't know	M2

M2. Are you satisfied with the information you have received about [PROGRAM]?

1	Very satisfied	M3
2	Somewhat satisfied	M3
3	Not that satisfied	M3
4	Not satisfied at all	M3
99	Don't know	M3

M3. How can communication about [PROGRAM] be improved? (open-ended) M4

[IF UTILITY=SCE OR PG&E]

M4. Did you use any [UTILITY] online billing analysis tools to help you decide whether to enroll in [PROGRAM]?
[IF UTILITY=SCE]

Prompt:

SCE's billing analysis tool is called Cost Manager, which provides both detailed billing analyses and what-if scenarios for program and rate comparisons. Cost Manager is available to all business customers for a fee.

[IF UTILITY=PG&E]

Prompt:

PG&E's billing analysis tool is called InterAct, which is free to all customers enrolled in a PG&E demand response program. InterAct also serves as an energy management tool.

1	Yes	M5
2	No	M7
99	Don't know	M7

[IF UTILITY=SCE OR PG&E]

M5. How helpful was the online billing analysis tool?

1	Helpful	M6
2	Not helpful	M6
99	Don't know	M6

[IF UTILITY=SCE OR PG&E]

M6. Do you have suggestions for improving the online billing analysis tool? (Open end) M7

For questions M7-M12
[IF UTILITY = SDG&E THEN ONLINE ENERGY MANAGEMENT TOOL = kWickView]
[IF UTILITY = SCE THEN ONLINE ENERGY MANAGEMENT TOOL = EnergyManager OR Cost Manager]
[IF UTILITY = PG&E THEN ONLINE ENERGY MANAGEMENT TOOL = InterAct]

M7. Are you familiar with [ONLINE ENERGY MANAGEMENT TOOL]?

1	Yes	M9
2	No	PROMPT
99	Don't know	PROMPT

[IF UTILITY = SDG&E]
Prompt:
kWickview is SDG&E's free online energy management tool that aggregates energy usage data in 15-minute intervals and makes the data available each morning.

[IF UTILITY = SCE]
Prompt:
EnergyManager and Cost Manager are SCE's online energy management tools, which provide you with detailed information on your energy usage.
[IF UTILITY = PG&E]
Prompt:
InterAct is PG&E's online energy management tool, which provides you with detailed information on your energy usage.

M8. Now do you recall [ONLINE ENERGY MANAGEMENT TOOL]?

1	Yes	M9
2	No	M13
99	Don't know	M13

M9. Do you use [ONLINE ENERGY MANAGEMENT TOOL]?

1	Yes	M10
2	No	M13
99	Don't know	M13

M10. How difficult or easy is [ONLINE ENERGY MANAGEMENT TOOL] to use?

1	Very easy to use	M11
2	Somewhat easy to use	M11
3	Somewhat difficult to use	M11
4	Very difficult to use	M11
99	Don't know	M11

M11. How important is it to see your energy usage the same day as opposed to the next day?

1	Very important	M12
2	Somewhat important	M12
3	Not very important	M12
4	Not important at all	M12
99	Don't know	M12

M12. Do you have suggestions for improving [ONLINE ENERGY MANAGEMENT TOOL]? (open-ended) M13

[IF PROGRAM=BIP]

M13. How important was your ability to select a firm service level in your decision to participate in the program? Recall that the firm service level is a pre-determined level of energy usage that you pay monthly to reserve, that is not exposed to demand response program events.

1	Very important	M14
2	Somewhat important	M14
3	Not that important	M14
4	Not important at all	M14
5	Not sure how important it was	M14
99	Don't know what a firm service level is	M14

[IF PROGRAM=BIP]

M14. Are you aware that the trigger for a program event has changed for 2009? The trigger refers to how your utility decides to call a program event, which is usually based on the California Independent Systems Operator (ISO) Stage 1 and Stage 2 warnings and emergencies. The California ISO is the organization responsible for operating the majority of California's high-voltage wholesale power grid.

1	Yes	M15
2	No	M17
99	Don't know	M17

[IF PROGRAM=BIP AND M14=1]

M15. How did you learn about the change in the trigger for a program event? (select all that apply)

1	Letter/mail from [utility]	M16
2	Email from [utility]	M16
3	Phone call from [utility]	M16
4	I talked to [utility] account representative/Account Executive	M16
77	Other, Specify_____	M16
99	Don't know	M16

[IF PROGRAM=BIP AND M14=1]

M16. How satisfied were you with the information you received about the change in the trigger?

1	Very satisfied	M17
2	Somewhat satisfied	M17
3	Not that satisfied	M17
4	Not satisfied at all	M17
99	Don't know	M17

M17. Have you enrolled or considered enrolling in other demand response programs?

1	Yes	M18
2	No	M19

99	Don't know	M19

[IF M17=1]

M18. Which ones? (open-ended) M19

M19. Are you aware that [UTILITY] has a program that offers free audits and financial incentives for customers who need additional technical equipment to participate in demand response programs?

1	Yes	E1
2	No	E1
99	Don't know	E1

DR EVENT ASSESSMENT

Not applicable for BIP AND CPP-E customers

[IF PROGRAM=CPP-V]

E1. Do you recall having any demand response program events last year? A program event is when the utility notifies you to reduce your energy usage.

1	Yes	E2
2	No	E14
99	Don't know	E14

E2. How were you notified? (select all that apply)

1	Email	E3
2	Phone	E3
3	Text message	E3
4	Account representative contacted me	E3
77	Other, Specify_____	E3
99	Don't know	E3

E3. How satisfied were you with the manner in which you were notified?

1	Very satisfied	E4
2	Somewhat satisfied	E4
3	Somewhat unsatisfied	E4
4	Not satisfied at all	E4
99	Don't know	E4

E4. What suggestions do you have to improve the notification process? (open-ended) E5

E5. Did you use [UTILITY] online tools to view your energy usage during the program event?

1	Yes	E6
2	No	E8
99	Don't know	E8

E6. How helpful was the online tool during the program event?

1	Helpful	E7
2	Not helpful	E7
99	Don't know	E7

E7. Do you have any suggestions for improving the online tool for the purpose of responding to a program event? (open ended) E8

E8. Did you reduce your energy consumption during the program event?

1	Yes	E9
2	No	E14
99	Don't know	E14

E9. How did you reduce your energy consumption during the program event? (select all that apply)

1	Turned down the air conditioning/fan	E14
2	Turned off the air conditioning/fan	E14
3	Turned off some lights	E14
4	Turned off all the lights	E14
5	Used less of other equipment	E14
6	Turned off other equipment	E14
7	Shut down some of our operations	E14
8	Shut down all of our operations	E14
77	Other, Specify_____	E14
99	Don't know	E14

E14. Would you like technical assistance from [UTILITY] regarding how to reduce your energy consumption in response to a demand response event?

1	Yes	E14a
2	No	S1
99	Don't know	S1

[IF E14=1]

E14a. What type of assistance are you looking for? [open-ended] S1

CUSTOMER SATISFACTION

S1. Do you have any suggestions for improving [PROGRAM]? (open-ended) I1

DEMAND RESPONSE AND ENERGY EFFICIENCY INTEGRATION

I1. Has your organization participated in any [UTILITY] energy efficiency programs?

1	Yes	I2
2	No	I2
99	Don't know	I2

I2. Has [UTILITY] provided you with information about demand response and energy efficiency programs in order to help your organization lower its utility bill?

1	Yes	I3
2	No	I3
99	Don't know	I3

I3. How well do you think you understand the difference between energy efficiency and demand response?

1	Very well	I4
2	Fairly well	I4
3	Not very well	I4
99	Don't know	I4

I4. How clear are the messages and communications coming from [UTILITY] about energy efficiency and demand response?

1	The messages and communications about energy efficiency and demand response are clear	I5
2	The messages and communications about energy efficiency and demand response are somewhat confusing	I5
3	The messages and communications about energy efficiency and demand response are very confusing	I5
99	Don't know	I5

I5. Do you have any suggestions for improving [UTILITY] communications about energy efficiency and demand response programs? (open-ended) C1

COMPANY/ORGANIZATION CHARACTERISTICS

C1. What is the main activity performed at this location?

1	Office	C2
2	Retail (non-food)	C2
3	College/university	C2
4	School	C2
5	Grocery store	C2
6	Convenience store	C2
7	Restaurant	C2
8	Health care/hospital	C2
9	Hotel or motel	C2
10	Warehouse	C2
11	Personal Service	C2
12	Community Service/Church/Temple/Municipality	C2
13	Industrial Electronic & Machinery	C2
14	Industrial Mining, Metals, Stone, Glass, Concrete	C2
15	Industrial Petroleum, Plastic, Rubber and Chemicals	C2
16	Other Industrial	C2
17	Agricultural	C2
18	Transportation/Telecommunications/Utility	C2
77	Other (SPECIFY)	C2
99	Don't know	C2

C2. Has your organization assigned responsibility for controlling energy usage and costs to any of the following?

1	An in-house staff person	C3
2	A group of staff	C3
3	An outside contractor	C3
4	No one	C3
99	Don't know	C3

C3. What is the approximate number of full-time equivalent workers of all types employed by your organization at this facility?

1	1 to 10	C4.a
2	11 to 50	C4.a
3	51 to 100	C4.a
4	100 to 250	C4.a
5	251 to 500	C4.a
6	501 to 1000	C4.a
7	Or, over 1000	C4.a
99	Don't know	C4.a

C4.a. Which of the following end uses consumes the LARGEST amount of electricity for this facility?

1	Lighting	C4.b
2	HVAC	C4.b
3	Continuous processing	C4.b
4	Batch processing	C4.b
5	Refrigeration	C4.b
77	Other, Specify_____	C4.b
99	Don't know	C5

C4.b. And which uses the SECOND most electricity?

1	Lighting	C5
2	HVAC	C5
3	Continuous processing	C5
4	Batch processing	C5
5	Refrigeration	C5
77	Other, Specify_____	C5
99	Don't know	C5

C5. Does your organization have a backup generator on site?

1	Yes	C6
2	No	C7
99	Don't know	C7

[IF C5 = 1]

C6. Have you used on site backup generation in the past to help you respond to a demand response program event?

1	Yes	C7
2	No	C7

99	Don't know	C7

C7. Are you aware of what the peak hours are on your current rate schedule?

1	Yes	C8
2	No	GC1
99	Don't know	GC1

C8. Do peak hours coincide with higher than usual energy use for your organization?

1	Yes	GC1
2	No	GC1
99	Don't know	GC1

Thank and Terminate

Thank you for taking the time to complete this survey. Your feedback is valuable and will be used to improve Demand Response programs and tariffs in the state of California. In appreciation of your taking the time to complete this survey, we would like to send you a gift card. Please be aware that you may also receive a follow-up phone call regarding [PROGRAM].

Thank you for taking the time to complete this survey.

4.2 CPP-D and CPP-D Opt-Out Online Surveys

RESPONDENT CHARACTERISTICS AND DEMAND RESPONSE ENROLLMENT

[IF CUSTOMER=CPP-D]

P1. Our records indicate that your organization is on the Critical Peak Pricing (CPP-D) rate. CPP-D is an electricity commodity rate that is offered by your utility company, San Diego Gas & Electric. Are you aware that your organization is on this rate?

1	Yes	P4
2	No	Prompt
99	Don't know	Prompt

Prompt:

[CPP-D] Critical Peak Pricing is a dynamic rate that charges a higher price between 11:00 a.m. and 6 p.m. on summer peak demand days and lower rates the rest of the year, compared to your standard time-of-use rate. San Diego Gas & Electric notified you about a year ago that you would be automatically switched to the new CPP rate from your old rate, unless you notified them.

[IF CUSTOMER=CPP-D]

P2. Now do you recall being changed to Critical Peak Pricing rate?

1	Yes	P4
2	No	Prompt
99	Don't know	Prompt

Prompt:

In the interest of improving Critical Peak Pricing, we would like to ask you to forward this email to the person most knowledgeable about energy usage in your organization. [GC1].

[IF CUSTOMER=CPP-D]

P4. Why did your organization choose to stay on to the Critical Peak Pricing rate?

1	Was not aware of the switch	P11
2	Bill protection made program participation low risk	P11
3	Lower peak rate than my old rate	P11
4	My account executive influenced my decision	P11
77	Other, Specify_____	P11
99	Don't know	P11

[IF CUSTOMER=CPP-D OPT-OUT]

P5. Our records indicate that your organization opted out of the Critical Peak Pricing rate (CPP-D), an electricity rate offered by San Diego Gas & Electric. Are you aware that your organization opted out of being on this rate?

1	Yes	P6
2	No	Prompt
99	Don't know	Prompt

Prompt:
Critical Peak Pricing is a demand response rate that charges a higher price during a demand response program event and lower rates the rest of the year, compared to your standard time-of-use rate. San Diego Gas & Electric notified you about a year ago that you would be automatically switched to the new CPP rate from your old rate, and your organization opted out and chose to remain on your standard time-of-use rate.

[IF CUSTOMER=CPP-D OPT-OUT and P5=2 OR 99]

P6. Now do you recall opting out of Critical Peak Pricing rate?

1	Yes	P7
2	No	Prompt
99	Don't know	Prompt

Prompt:
In the interest of improving Critical Peak Pricing, we would like to ask you to forward this email to the person most knowledgeable about energy usage in your organization. Thank you very much for your time. [GC1].

[IF CUSTOMER=CPP-D OPT-OUT]

P7. Why did your organization choose to opt out of CPP-D?

1	Too difficult to understand or to take the time to learn more about CPP	P8
2	With my energy profile, I would be paying more	P8
3	Cannot reduce energy use on peak days	P8
77	Other (specify)	P8
99	Don't know	P8

[IF CUSTOMER=CPP-D OPT-OUT]

P8. Would your organization be interested in changing to the Critical Peak Pricing rate or participating in another Demand Response program in the future?

1	Yes	P9
2	No	P10
99	Don't know	P11

[IF CUSTOMER=CPP-D OPT-OUT AND P8=1]

P9. Why? (open-ended) P11

[IF CUSTOMER=CPP-D OPT-OUT AND P8=2]

P10. Why not? (open-ended) P11

P11. What is your job title?

1	Facilities Manager	M1
2	Energy Manager	M1
3	Other facilities management/maintenance position	M1
4	Chief Financial Officer	M1
5	Other financial/administrative position	M1
6	Proprietor/Owner	M1
7	President/CEO	M1
8	Plant Manager	M1
9	Controller	M1
10	Engineer	M1
11	Operations	M1
77	Other (Specify)	M1
99	Don't Know	M1

MARKETING AND COMMUNICATION

M1. How did you first learn about the CPP-D rate? (select all that apply)

1	Pamphlet/Mail from SDG&E	M2
2	Email communication from SDG&E	M2
3	SDG&E website	M2
4	Phone call/meeting with SDG&E account executive or other SDG&E representative	M2
5	Attended an SDG&E presentation in person	M2
6	Watched an online video about the CPP-D rate	M2
77	Other, Specify_____	M2
99	Don't know	M2

[IF M1=4]

M2. Did the SDG&E account executive or representative explain the CPP-D rate to you?

1	Yes	M3
2	No	M3
99	Don't know	M3

M3. Did you understand that the CPP-D rate would result in a lower rate than the otherwise applicable rate for the rest of the year and a higher rate during a demand response program event?

1	Yes	M4

2	No	M4
99	Don't know	M4

M4. Under the CPP-D rate, did you think that you had to shut down your operations completely during a demand response program event?

1	Yes	M5
2	No	M5
99	Don't know	M5

[IF M1=4]

M5. Did your SDG&E account executive or representative explain the Capacity Reservation Charge (CRC) to you? The CRC is a fixed monthly fee that you pay in order to reserve a specific amount of electricity that won't be exposed to the higher peak demand event rate.

1	Yes	M6
2	No	M6
99	Don't know	M6

M6. Do you understand the Capacity Reservation Charge (CRC)?

1	Yes	M7
2	No	M10
99	Don't know	M10

[IF CUSTOMER=CPP-D AND M6=1]

M7. Did you select your CRC?

1	Yes	M8
2	No	M9
99	Don't know	M9

[IF CUSTOMER=CPP-D AND M7=1]

M8. How did you select your CRC? (open ended) M9

[IF CUSTOMER=CPP-D AND M6=1]

M9. Do you think the default CRC should be at 50% or some other level?

1	Yes, it should remain at 50%.	M10
2	No, the default CRC should be lower	M10
3	No, the default CRC should be higher	M10
99	Don't know	M10

[IF CUSTOMER=CPP-D]

M10. You were given bill protection for a full year after defaulting to the CPP-D rate, which protected you from paying more on the new rate than you would have paid under the time-of-use rate. Did you understand that you had that bill protection?

1	Yes	M12
2	No	M13
99	Don't know	M13

[IF CUSTOMER=CPP-D]

M12. How important was having bill protection in influencing your decision to stay on the CPP-D rate?

1	Very important	M13
2	Somewhat important	M13
3	Not very important	M13
4	Not important at all	M13
98	Don't know how important it was	M13
99	Don't know what bill protection is	M13

[IF CUSTOMER=CPP-D]

M13. Is the difference between your CPP-D rate and the otherwise applicable rate enough to justify remaining on the CPP-D rate?

1	Yes	M16
2	No	M16
99	Don't know	M16

[IF CUSTOMER=CPP-D OPT-OUT]

M15. What changes would need to take place in order for you to decide to opt back into the CPP-D rate? (open-ended) M16

M16. Did you do an analysis to help you decide whether to stay on the CPP-D rate?

1	Yes, my organization ran its own analysis	M18
2	Yes, my organization used SDG&E's My Account tool to run an analysis	M17
3	Yes, my account executive ran SDG&E's My Account tool to run an analysis for me	M18
4	Other, specify_____	M18
5	No	M18
99	Don't know	M18

[IF M16=2]

M17. How difficult or easy was it for you to use the online billing analysis tool?

1	Very easy to use	M18
2	Somewhat easy to use	M18
3	Somewhat difficult to use	M18
4	Very difficult to use	M18

99	Don't know	M18

[IF CUSTOMER=CPP-D]

M18. Are you familiar with kWickview? kWickview is SDG&E's free online energy management tool that aggregates energy usage data in 15-minute intervals and makes the data available each morning.

1	Yes	M19
2	No	M25
99	Don't know	M25

[IF CUSTOMER=CPP-D AND M18=1]

M19. Do you use kWickview?

1	Yes	M19
2	No	M25
99	Don't know	M25

[IF CUSTOMER=CPP-D M18=1]

M20. How difficult or easy is kWickview to use?

1	Very easy to use	M21
2	Somewhat easy to use	M21
3	Somewhat difficult to use	M21
4	Very difficult to use	M21
99	Don't know	M21

[IF CUSTOMER=CPP-D]

M21. How important is it to see your energy usage the same day as opposed to the next day?

1	Very important	M25
2	Somewhat important	M25
3	Not very important	M25
4	Not important at all	M25
99	Don't know	M25

M25. Are you satisfied with the information you have received about CPP-D?

1	Very satisfied	M26
2	Somewhat satisfied	M26
3	Somewhat unsatisfied	M26
4	Not satisfied at all	M26
99	Don't know	M26

M26. How can communication about the CPP-D rate be improved? (open-ended) M27

[IF CUSTOMER=CPP-D]

M27. Have you enrolled or considered enrolling in other demand response programs?

1	Yes	M28
2	No	M29
99	Don't know	M29

[IF CUSTOMER=CPP-D AND M27=1]

M28. Which ones? (open-ended) M29

M29. Are you aware that SDG&E has a program that offers free audits and financial incentives for customers who need additional technical equipment to participate in demand response programs?

1	Yes	I1
2	No	I1
99	Don't know	I1

DR POST-EVENT ASSESSMENT

Not applicable for CPP-D Opt-Out customers

E1. Do you recall the Critical Peak Pricing (CPP) Event Days that occurred recently? An event is when the utility notifies you that the price of electricity is going to increase significantly during peak hours on the CPP Event Day.

1	Yes	E2
2	No	I1
99	Don't know	I1

E2. How were you notified? (select all that apply)

1	Email	E3
2	Phone	E3
3	Text message	E3
4	Account Executive contacted me	E3
77	Other, Specify_____	E3
99	Don't know	E3

E3. How satisfied were you with the manner in which you were notified of the CPP Events?

1	Very satisfied	E3a
2	Somewhat satisfied	E3a
3	Somewhat unsatisfied	E3a
4	Not satisfied at all	E3a
99	Don't know	E3a

E3a. Did you receive supplemental communication about the CPP Events?

1	Yes	E3b
2	No	E4
99	Don't know	E4

E3b. How useful was any supplemental communication you received?

1	Very useful	E4
2	Somewhat useful	E4
3	Not very useful	E4
4	Not useful at all	E4
99	Don't know	E4

E4. What suggestions do you have to improve the notification and communication process? (open-ended) E5

E5. Did you use kWickview to view your energy usage after the CPP Events? Recall that kWickview is SDG&E's online energy management tool.

1	Yes	E6
2	No	E8
99	Don't know	E8

E6. How helpful was the kWickview tool after the CPP Events?

1	Very helpful	E7
2	Somewhat helpful	E7
3	Somewhat unhelpful	E7
4	Not helpful at all	E7
99	Don't know	E7

E7. Do you have any suggestions for improving the kWickview tool for the purpose of responding to a CPP Event? (open ended) E8

E8. Did you reduce your energy consumption during the CPP Events?

1	Yes	E9
2	No	E10
99	Don't know	E14

[IF E8=1]

E9. How did you reduce your energy consumption during the CPP Events? (select all that apply)

1	Turned down the air conditioning/fan	E11
2	Turned off the air conditioning/fan	E11
3	Turned off some lights	E11
4	Turned off all the lights	E11
5	Used less of other equipment	E11

6	Turned off other equipment	E11
7	Shut down some of our operations	E11
8	Shut down all of our operations	E11
9	Shifted our operating hours	E11
77	Other, Specify_____	E11
99	Don't know	E11

[IF E8=2]

E10. Why were you unable to reduce your energy consumption during the CPP Events? (open ended) E14

[IF E8=1]

E11. Were you able to reduce your energy consumption to the level you had expected?

1	We exceeded our energy reduction needs	E12
2	We met our energy reduction needs	E12
3	We fell just short of our energy reduction needs	E12
4	We fell far short of our energy reduction needs	E12
99	Don't know	E12

[IF E8=1]

E12. Did responding to the CPP Events impact your operations in any way?

1	Yes	E13
2	No	E14
99	Don't know	E14

[IF E12=1]

E13. Please describe these impacts. (open ended) E14

E14. Would you like technical assistance from SDG&E regarding how to reduce your energy consumption during CPP Events?

1	Yes	E14a
2	No	E15
99	Don't know	E15

[IF E14=1]

E14a. What type of assistance would you like to help you reduce demand during a CPP Event? [open-ended] E15

E15. What is your understanding of the reason you were asked to reduce your energy consumption?

1	High price of power to the utility	I1
2	Grid reliability issues	I1
3	Temperature or weather related demand	I1

4	Environmental benefits	I1
77	Other reason. Specify_____	I1
99	Don't know why my organization was asked to reduce its load	I1

DEMAND RESPONSE AND ENERGY EFFICIENCY INTEGRATION

I1. Has your organization participated in any SDG&E energy efficiency programs?

1	Yes	I3
2	No	I3
99	Don't know	I3

I3. How well do you think you understand the difference between energy efficiency and demand response?

1	Very well	I4
2	Fairly well	I4
4	Not very well	I4
99	Don't know	I4

I4. How clear are the messages and communications coming from SDG&E about energy efficiency and demand response?

1	The messages and communications about energy efficiency and demand response are clear	
2	The messages and communications about energy efficiency and demand response are somewhat confusing	
3	The messages and communications about energy efficiency and demand response are very confusing	
99	Don't know	

I5. Do you have any suggestions for improving SDG&E communications about energy efficiency and demand response programs? (open-ended) C1

COMPANY/ORGANIZATION CHARACTERISTICS

C1. What is the main activity performed at this location?

1	Office	C2
2	Retail (non-food)	C2
3	College/university	C2
4	School	C2
5	Grocery store	C2
6	Convenience store	C2
7	Restaurant	C2
8	Health care/hospital	C2
9	Hotel or motel	C2
10	Warehouse	C2
11	Personal Service	C2
12	Community Service/Church/Temple/Municipality	C2
13	Industrial Electronic & Machinery	C2
14	Industrial Mining, Metals, Stone, Glass, Concrete	C2
15	Industrial Petroleum, Plastic, Rubber and Chemicals	C2
16	Other Industrial	C2
17	Agricultural	C2
18	Transportation/Telecommunications/Utility	C2
77	Other (SPECIFY)	C2
99	Don't know	C2

C2. Has your organization assigned responsibility for managing energy usage and costs to any of the following?

1	An in-house staff person	C3
2	A group of staff	C3
3	An outside contractor	C3
4	No one	C3
99	Don't know	C3

C3. What is the approximate number of full-time equivalent workers of all types employed by your organization at this facility?

1	1 to 10	C4.a
2	11 to 50	C4.a
3	51 to 100	C4.a
4	100 to 250	C4.a
5	251 to 500	C4.a
6	501 to 1000	C4.a

7	Or, over 1000	C4.a
99	Don't know	C4.a

C4.a. Which of the following end uses consumes the LARGEST amount of electricity for this facility?

1	Lighting	C4.b
2	HVAC	C4.b
3	Continuous processing	C4.b
4	Batch processing	C4.b
5	Refrigeration	C4.b
77	Other, Specify_____	C4.b
99	Don't know	C5

C4.b. And which uses the SECOND most electricity?

1	Lighting	C5
2	HVAC	C5
3	Continuous processing	C5
4	Batch processing	C5
5	Refrigeration	C5
77	Other, Specify_____	C5
99	Don't know	C5

C5. Does your organization have a backup generator on site?

1	Yes	C6
2	No	C7
99	Don't know	C7

[IF C5 = 1]

C6. Have you used on site backup generation in the past to help you respond to a demand response program event?

1	Yes	C7
2	No	C7
99	Don't know	C7

C7. Are you aware of what the peak hours are on your current rate schedule?

1	Yes	C8
2	No	GC1
99	Don't know	GC1

C8. Do peak hours coincide with higher than usual energy use for your organization?

1	Yes	GC1

2	No	GC1
99	Don't know	GC1

Thank and Terminate

Thank you for taking the time to complete this survey. Your feedback is valuable and will be used to improve CPP-D. Please be aware that you may also receive a follow-up phone call regarding CPP-D.

In appreciation of your taking the time to complete this survey, we would like to send you a gift card.

Thank you for taking the time to complete this survey.

5. Appendix B – In-Depth Telephone Surveys

5.1 BIP, CPP-V, CPP-E Telephone Surveys

INTRODUCTION

IN1. I'm calling on behalf of [UTILITY].

[IF NON-RESPONDENT TO ONLINE SURVEY]

We are trying to get feedback from [UTILITY] demand response customers in order to improve demand response programs and tariffs in the state of California. Is it OK if I ask you a few questions?

[IF ONLINE SURVEY RESPONDENT]

Our records indicate that you completed our online survey about demand response programs. Thanks again for taking the time to complete the online survey. We'd like to ask you a few more specific follow-up questions. Would that be OK?

1	Yes	IN2
2	No	IN3
99	Don't know	IN2

[IF NON-RESPONDENT TO ONLINE SURVEY]

IN2. Are you the person most knowledgeable about energy usage in your organization?

1	Yes	Incentive
2	No	IN3
99	Don't know	IN3

[IF NON-RESPONDENT TO ONLINE SURVEY]

IN3. Is there someone else at your organization I can speak with about demand response programs?

1	Yes	Contact info.
2	No	Terminate
99	Don't know	Terminate

Contact information:

Record contact information of person at organization who is able to speak about demand response programs:

_____

_____

Incentive:

As an incentive for speaking with me today about your experience with demand response programs and tariffs, we are offering $10 gift cards. P1

DEMAND RESPONSE PROGRAM AWARENESS

P1. Our records indicate that your organization is enrolled in [PROGRAM].

[IF NON-RESPONDENT TO ONLINE SURVEY]

Are you aware that your organization is enrolled in [PROGRAM]?

[IF ONLINE SURVEY RESPONDENT]

Is this information still correct?

1	Yes	P3
2	No	Prompt
99	Don't know	Prompt

[IF CUST. NOT AWARE OF ENROLLMENT]

[IF PROGRAM= CPP-V OR CPP-E]

Prompt:

Critical Peak Pricing offers customers rate discounts for shifting or reducing electricity use during times of peak demand.

[IF PROGRAM=BIP]

Prompt:

[BIP] The Base Interruptible Program is a type of demand response program that offers customers monthly incentives in exchange for agreeing to reduce electricity use to a pre-determined level during times of peak demand.

[IF CUST. NOT AWARE OF ENROLLMENT]

P2. Now do you recall being enrolled in the [PROGRAM]?

1	Yes	P3
2	No	Terminate
99	Don't know	Terminate

P3. Why did your organization choose to enroll in [PROGRAM]? (open-ended) P4

[IF NON-RESPONDENT TO ONLINE SURVEY]

P4. What is your job title? (do not read list)

1	Facilities Manager	P5
2	Energy Manager	P5
3	Other facilities management/maintenance position	P5
4	Chief Financial Officer	P5
5	Other financial/administrative position	P5
6	Proprietor/Owner	P5
7	President/CEO	P5
8	Plant Manager	P5
9	Controller	P5
10	Engineer	P5
11	Operations	P5
77	Other (Specify)	P5
99	Don't Know	P5

P5. Do you manage a single site or multiple sites?

1	Single site	E1
2	Multiple sites	E1
99	Don't know	E1

DR EVENT ASSESSMENT: PREPARING FOR EVENTS, RESPONDING TO EVENTS, AND PREPARING FOR EVENTS IN THE FUTURE

I'm going to ask you a few questions about preparing for demand response events and responding to demand response events.

EVENT PREPARATION

E1. When your organization first enrolled in [PROGRAM] were you aware that you might have to curtail operations or shed load during a demand response event?

1	Yes	E2
2	No	E4
99	Don't know	E4

PROMPT (if unaware of what a demand response event is):
A demand response event is when the utility notifies you to reduce your energy usage.

E2. Did your organization know the various measures it would take to curtail or shed load during a demand response event?

1	Yes	Describe
2	No	E3
99	Don't know	E3

- If yes, please describe. E3

E3. Did your organization already have measures in place, such as automated building controls and backup generation, to be able to respond to a demand response event?

1	Yes	Describe
2	No	E4
99	Don't know	E4

- If yes, please describe. E4

E4. Did your organization have access to data and/or tools to help manage energy use during an event?

1	Yes	Describe
2	No	E5
99	Don't know	E5

- If yes, please describe. E5

E5. Did your organization take any actions after you enrolled to prepare for potential demand response events in the future? (Prompt, if needed: such as implementing employee training, going online to obtain energy data)

1	Yes	Describe
2	No	E6
99	Don't know	E6

- If yes, please describe. E6

E6. Do you feel your organization needed to do more in advance to prepare for events?

1	Yes	Describe
2	No	E7
99	Don't know	E7

- If yes, please describe. E7

E7. Did you receive any assistance from [UTILITY] to prepare for potential demand response events?

1	Yes	Describe
2	No	E8
99	Don't know	E8

- If yes, please describe. E8

EVENT RESPONSE

[CPP-D, CPP-V, & PG&E/SCE BIP ONLY]
Not applicable for SDG&E BIP AND CPP-E customers

E8. Do you recall having any demand response events in the past few months?

1	Yes	E9
2	No	E20
99	Don't know	E20

E9. How were you notified? (select all that apply; do not read list)

1	Email	E10
2	Phone	E10
3	Text message	E10
4	Account representative contacted me	E10
77	Other, Specify_____	E10
99	Don't know	E11

E10. Were you satisfied with the manner in which you were notified?

1	Yes	E10a
2	No	Explain
99	Don't know	E10a

- If not satisfied with notification, please explain. E10a

E10a. Did you receive supplemental communication about the demand response events?

1	Yes	E10b
2	No	E11
99	Don't know	E11

[IF YES]
E10b. Was the supplemental communication you received useful?

1	Yes	E11
2	No	Explain
99	Don't know	E11

- If no, please explain. E11

E11. Do you have any suggestions for improving the notification process? (open-ended) E12

Note for interviewers:

[IF UTILITY=SDG&E]
SDG&E's online energy management tool is called kWickview, which aggregates energy usage data in 15-minute intervals and makes the data available each morning.

[IF UTILITY=SCE]
SCE's online energy management tools are called EnergyManager and Cost Manager. EnergyManager is free to SCE demand response customers. Cost Manager is available to all business customers for a fee and has greater capabilities than EnergyManager.

[IF UTILITY=PG&E]
PG&E's online energy management tool is called InterAct, which is free to all customers enrolled in a PG&E demand response program.

E12. Did you use [UTILITY] online tools to view your energy usage during the demand response event(s)?

1	Yes	E13
2	No	E16
99	Don't know	E16

E13. Was the online tool helpful during the demand response event(s)?

1	Yes	E14
2	No	E14
99	Don't know	E14

E14. How important is it to see your energy usage the same day as opposed to the next day?

1	Important	Explain
2	Not important	Explain
99	Don't know	E15

- Why is it important/not important?

E15. Do you have any suggestions for improving the online tool for the purpose of responding to a demand response event? (open ended) E16

[IF NON-RESPONDENT TO ONLINE SURVEY]

E16. Did you reduce your energy consumption during the demand event(s)?

1	Yes	E17
2	No	Explain

99	Don't know	E20

- If no, please explain. E20

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER REDUCED ENERGY CONSUMPTION DURING EVENT]

E17. How did you reduce your energy consumption during the demand response event(s)? (select all that apply; do not read list)

1	Turned down the air conditioning/fan	E18
2	Turned off the air conditioning/fan	E18
3	Turned off some lights	E18
4	Turned off all the lights	E18
5	Used less of other equipment	E18
6	Turned off other equipment	E18
7	Shut down some of our operations	E18
8	Shut down all of our operations	E18
77	Other, Specify_____	E18
99	Don't know	E18

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER REDUCED ENERGY CONSUMPTION DURING EVENT]

E18. Were you able to reduce your energy consumption to the level you had expected or committed to?

1	Yes	E19
2	No	Explain
99	Don't know	E19

- If no, please explain. E19

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER REDUCED ENERGY CONSUMPTION DURING EVENT]

E19. Did responding to the demand response events impact your operations in any way?

1	Yes	Explain
2	No	E20
99	Don't know	E20

- If yes, please describe these impacts. E20

PREPARATION FOR FUTURE EVENTS

[ALL PROGRAMS/RATES]

E20. Would you like technical assistance from [UTILITY] regarding how to reduce your energy consumption in response to a demand response event?

1	Yes	Describe
2	No	E21
99	Don't know	E21

[IF CUSTOMER WOULD LIKE TECHNICAL ASSISTANCE]

- What type of assistance would you like to help you reduce demand during a demand response event? E21

E21. Will your organization make any changes to prepare for demand response events in the future?

1	Yes	Explain
2	No	M1
99	Don't know	M1

[IF ORGANIZATION PLANS TO MAKE CHANGES]

- What changes does your organization plan to make? M1

MARKETING AND COMMUNICATION

I'm now going to ask you a few questions about communications you receive from [UTILITY] on demand response programs

M1. Are you satisfied with the information from [UTILITY] you have received about [PROGRAM]?

1	Yes	M2
2	No	M2
99	Don't know	M2

M2. Do you have any suggestions for improving communication about [PROGRAM]? (open-ended)

[IF NON-RESPONDENT TO ONLINE SURVEY]

M3. Have you enrolled or considered enrolling in other demand response programs?

1	Yes	Explain
2	No	M4
99	Don't know	M4

- If yes, which ones? M4

M4. Are you aware that [UTILITY] has a program that offers free audits and financial incentives for customers who need additional technical equipment to participate in demand response programs?

1	Yes	M5
2	No	M6
99	Don't know	M6

M5. Is that something you would be interested in?

1	Yes	M6
2	No	M6
99	Don't know	M6

CUSTOMER SATISFACTION

S1. Do you have any general suggestions for improving [PROGRAM]? (open-ended) C1

DEMAND RESPONSE AND ENERGY EFFICIENCY INTEGRATION

[IF NON-RESPONDENT TO ONLINE SURVEY]

I1. Has your organization participated in any [UTILITY] energy efficiency programs?

1	Yes	Explain
2	No	I2
99	Don't know	I2

- If yes, which ones? I2

[IF NON-RESPONDENT TO ONLINE SURVEY]

I2. How well do you think you understand the difference between energy efficiency and demand response? (open end) I3

[IF NON-RESPONDENT TO ONLINE SURVEY]

I3. How clear are the messages and communications coming from [UTILITY] about energy efficiency and demand response? (open end) I4

- (If messages are confusing or unclear) Please explain. I4

[IF NON-RESPONDENT TO ONLINE SURVEY]

I4. Do you have any suggestions for improving [UTILITY] communications about energy efficiency and demand response programs? (open-ended) C1

COMPANY/ORGANIZATION CHARACTERISTICS

[IF NON-RESPONDENT TO ONLINE SURVEY]

C1. What is the main activity performed at the facility (facilities) where you work? (Do not read list)

1	Office	C2
2	Retail (non-food)	C2
3	College/university	C2
4	School	C2
5	Grocery store	C2
6	Convenience store	C2
7	Restaurant	C2
8	Health care/hospital	C2
9	Hotel or motel	C2
10	Warehouse	C2
11	Personal Service	C2
12	Community Service/Church/Temple/Municipality	C2
13	Industrial Electronic & Machinery	C2
14	Industrial Mining, Metals, Stone, Glass, Concrete	C2
15	Industrial Petroleum, Plastic, Rubber and Chemicals	C2
16	Other Industrial	C2
17	Agricultural	C2
18	Transportation/Telecommunications/Utility	C2
77	Other (SPECIFY)	C2
99	Don't know	C2

[IF NON-RESPONDENT TO ONLINE SURVEY]

C2. What is the approximate number of full-time workers employed by your organization at this facility (at these facilities)? (Do not read list)

1	1 to 10	C3
2	11 to 50	C3
3	51 to 100	C3
4	100 to 250	C3
5	251 to 500	C3
6	501 to 1000	C3
7	Or, over 1000	C3
99	Don't know	C3

[IF NON-RESPONDENT TO ONLINE SURVEY]

C3. Does your organization have a backup generator on site?

1	Yes	C4
2	No	GC1
99	Don't know	GC1

[IF NON-RESPONDENT TO ONLINE SURVEY]
[IF C3 = 1]

C4. Have you used on site backup generation in the past to help you respond to a demand response program event?

1	Yes	GC1
2	No	GC1
99	Don't know	GC1

Thank and Terminate

Thank you for taking the time to speak with me today. In appreciation of your feedback, we would like to send you a gift card.

Thank you again for taking the time to speak with me.

5.2 CPP-D Telephone Surveys

INTRODUCTION

IN1. I'm calling on behalf of SDG&E.

[IF NON-RESPONDENT TO ONLINE SURVEY]

We are trying to get feedback from SDG&E demand response customers in order to improve demand response programs and tariffs in the state of California. Is it OK if I ask you a few questions?

[IF ONLINE SURVEY RESPONDENT]

Our records indicate that you completed our online survey about demand response programs. Thanks again for taking the time to complete the online survey. We'd like to ask you a few more specific follow-up questions. Would that be OK?

1	Yes	IN2
2	No	IN3
99	Don't know	IN2

[IF NON-RESPONDENT TO ONLINE SURVEY]

IN2. Are you the person most knowledgeable about energy usage in your organization?

1	Yes	Incentive
2	No	IN3
99	Don't know	IN3

[IF NON-RESPONDENT TO ONLINE SURVEY]

IN3. Is there someone else at your organization I can speak with about demand response programs and tariffs?

1	Yes	Contact info.
2	No	Terminate
99	Don't know	Terminate

Contact information:

Record contact information of person at organization who is able to speak about demand response:

_____

_____

Incentive:

As an incentive for speaking with me today about your experience with demand response programs and tariffs, we are offering $10 gift cards. P1

DEMAND RESPONSE RATE AWARENESS

P1. Our records indicate that your organization is on the CPP-D rate.
[IF NON-RESPONDENT TO ONLINE SURVEY]

Are you aware that your organization is on the CPP-D rate?

[IF ONLINE SURVEY RESPONDENT]

Is this information still correct?

1	Yes	P3
2	No	Prompt
99	Don't know	Prompt

[IF CUST. NOT AWARE OF RATE]

Prompt:

Critical Peak Pricing offers customers rate discounts for shifting or reducing electricity use during times of peak demand.

[IF CUST. NOT AWARE OF ENROLLMENT]

P2. Now do you recall being on the CPP-D rate?

1	Yes	P3
2	No	Terminate
99	Don't know	Terminate

P3. Why did your organization choose to stay on the CPP-D rate? (open-ended) P4

[IF NON-RESPONDENT TO ONLINE SURVEY]

P4. What is your job title? (do not read list)

1	Facilities Manager	P5
2	Energy Manager	P5
3	Other facilities management/maintenance position	P5
4	Chief Financial Officer	P5
5	Other financial/administrative position	P5
6	Proprietor/Owner	P5
7	President/CEO	P5
8	Plant Manager	P5
9	Controller	P5
10	Engineer	P5
11	Operations	P5
77	Other (Specify)	P5
99	Don't Know	P5

P5. Do you manage a single site or multiple sites?

1	Single site	E1
2	Multiple sites	E1
99	Don't know	E1

DR EVENT ASSESSMENT: PREPARING FOR EVENTS, RESPONDING TO EVENTS, AND PREPARING FOR EVENTS IN THE FUTURE

I'm going to ask you a few questions about preparing for demand response events and responding to demand response events.

EVENT PREPARATION

E1. When your organization first went on the CPP-D rate were you aware that you might have to curtail operations or shed load during a demand response event?

1	Yes	E2
2	No	E4
99	Don't know	E4

PROMPT (if unaware of what a demand response event is):
A demand response event is when the utility notifies you to reduce your energy usage.

E2. Did your organization know the various measures it would take to curtail or shed load during a demand response event?

1	Yes	Describe

2	No	E3
99	Don't know	E3

- If yes, please describe. E3

E3. Did your organization already have measures in place, such as automated building controls and backup generation, to be able to respond to a demand response event?

1	Yes	Describe
2	No	E4
99	Don't know	E4

- If yes, please describe. E4

E4. Did your organization have access to data and/or tools to help manage energy use during an event?

1	Yes	Describe
2	No	E5
99	Don't know	E5

- If yes, please describe. E5

E5. Did your organization take any actions after you went on the CPP-D rate to prepare for potential demand response events in the future? (Prompt, if needed: such as implementing employee training, going online to obtain energy data)

1	Yes	Describe
2	No	E6
99	Don't know	E6

- If yes, please describe. E6

E6. Do you feel your organization needed to do more in advance to prepare for events?

1	Yes	Describe
2	No	E7
99	Don't know	E7

- If yes, please describe. E7

E7. Did you receive any assistance from SDG&E to prepare for potential demand response events?

1	Yes	Describe
2	No	E8
99	Don't know	E8

- If yes, please describe. E8

EVENT RESPONSE

E8. Do you recall having any demand response events in the past few months?

1	Yes	E9
2	No	E20
99	Don't know	E20

E9. How were you notified? (select all that apply; do not read list)

1	Email	E10
2	Phone	E10
3	Text message	E10
4	Account executive contacted me	E10
77	Other, Specify_____	E10
99	Don't know	E11

E10. Were you satisfied with the manner in which you were notified?

1	Yes	E10a
2	No	Explain
99	Don't know	E10a

- If not satisfied with notification, please explain. E10a

E10a. Did you receive supplemental communication about the demand response events?

1	Yes	E10b
2	No	E11
99	Don't know	E11

[IF YES]

E10b. Was the supplemental communication you received useful?

1	Yes	E11
2	No	Explain
99	Don't know	E11

- If no, please explain. E11

E11. Do you have any suggestions for improving the notification process? (open-ended) E12

Note for interviewers:

SDG&E's online energy management tool is called kWickview, which aggregates energy usage data in 15-minute intervals and makes the data available each morning.

E12. Did you use SDG&E online tools to view your energy usage during the demand response events?

1	Yes	E13
2	No	E16
99	Don't know	E16

E13. Was the online tool (kWickview) helpful during the demand response events?

1	Yes	E14
2	No	E14
99	Don't know	E14

E14. How important is it to see your energy usage the same day as opposed to the next day?

1	Important	Explain
2	Not important	Explain
99	Don't know	E15

- Why is it important/not important?

E15. Do you have any suggestions for improving the online tool (kWickview) for the purpose of responding to a demand response event? (open ended) E16

[IF NON-RESPONDENT TO ONLINE SURVEY]

E16. Did you reduce your energy consumption during the demand events?

1	Yes	E17
2	No	Explain
99	Don't know	E20

- If no, please explain. E20

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER REDUCED ENERGY CONSUMPTION DURING EVENT]

E17. How did you reduce your energy consumption during the demand response events? (select all that apply; do not read list)

1	Turned down the air conditioning/fan	E18
2	Turned off the air conditioning/fan	E18
3	Turned off some lights	E18
4	Turned off all the lights	E18
5	Used less of other equipment	E18
6	Turned off other equipment	E18
7	Shut down some of our operations	E18
8	Shut down all of our operations	E18
77	Other, Specify_____	E18

99	Don't know	E18

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER REDUCED ENERGY CONSUMPTION DURING EVENT]

E18. Were you able to reduce your energy consumption to the level you had expected or committed to?

1	Yes	E19
2	No	Explain
99	Don't know	E19

- If no, please explain. E19

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER REDUCED ENERGY CONSUMPTION DURING EVENT]

E19. Did responding to the demand response events impact your operations in any way?

1	Yes	Explain
2	No	E20
99	Don't know	E20

- If yes, please describe these impacts. E20

PREPARATION FOR FUTURE EVENTS

E20. Would you like technical assistance from SDG&E regarding how to reduce your energy consumption in response to a demand response event?

1	Yes	Describe
2	No	E21
99	Don't know	E21

[IF CUSTOMER WOULD LIKE TECHNICAL ASSISTANCE]

- What type of assistance would you like to help you reduce demand during a demand response event? E21

E21. Will your organization make any changes to prepare for demand response events in the future?

1	Yes	Explain
2	No	MC1
99	Don't know	MC1

[IF ORGANIZATION PLANS TO MAKE CHANGES]

- What changes does your organization plan to make? MC1

MARKETING AND COMMUNICATION

I'm now going to ask you a few questions about communications you receive from SDG&E on CPP-D.

INITIAL COMMUNICATIONS ABOUT CPP-D RATE

[IF NON-RESPONDENT TO ONLINE SURVEY]

MC1. How did you first learn about the CPP-D rate? (select all that apply; do not read list)

1	Pamphlet/Mail from SDG&E	MC3
2	Email communication from SDG&E	MC3
3	SDG&E website	MC3
4	Phone call/meeting with SDG&E Account Executive or other SDG&E representative	MC2
5	Attended an SDG&E presentation in person	MC3
6	Watched an online video about the CPP-D rate	MC3
77	Other, Specify_____	MC3
99	Don't know	MC3

[IF NON-RESPONDENT TO ONLINE SURVEY]
[IF CUSTOMER WAS CONTACTED BY OR HAD A MEETING WITH SDG&E ACCOUNT EXECUTIVE OR OTHER SDG&E REPRESENTATIVE.]

MC2. Did the SDG&E account executive or representative explain the CPP-D rate to you?

1	Yes	MC3
2	No	MC3
99	Don't know	MC3

[IF NON-RESPONDENT TO ONLINE SURVEY]

MC3. Did you understand that the CPP-D rate would result in a lower rate than the otherwise applicable rate for the rest of the year and a higher rate during a demand response program event?

1	Yes	MC4
2	No	MC4
99	Don't know	MC4

[IF NON-RESPONDENT TO ONLINE SURVEY]

MC4. Under the CPP-D rate, did you think that you had to shut down your operations completely during a demand response program event?

1	Yes	M1
2	No	M1

99	Don't know	M1

[QUESTIONS FOR ALL RATES AND PROGRAMS]

MARKETING AND COMMUNICATION

M1. Are you satisfied with the information from SDG&E you have received about CPP-D?

1	Yes	M2
2	No	M2
99	Don't know	M2

M2. Do you have any suggestions for improving communication about CPP-D? (open-ended)

[IF NON-RESPONDENT TO ONLINE SURVEY]

M3. Have you enrolled or considered enrolling in other demand response programs?

1	Yes	Explain
2	No	M4
99	Don't know	M4

- If yes, which ones? M4

M4. Are you aware that SDG&E has a program that offers free audits and financial incentives for customers who need additional technical equipment to participate in demand response?

1	Yes	M5
2	No	M5
99	Don't know	M5

M5. Is that something you would be interested in?

1	Yes	M6
2	No	M6
99	Don't know	M6

[IF NON-RESPONDENT TO ONLINE SURVEY]

M6. Do you understand the Capacity Reservation Charge (CRC)?

1	Yes	M8
2	No	M7
99	Don't know	M7

PROMPT (if unaware of what CRC is):

The CRC is a fixed monthly fee that you pay in order to reserve a specific amount of electricity that won't be exposed to the higher peak demand event rate.

A demand response event is when the utility notifies you to reduce your energy usage.

[IF CUSTOMER UNAWARE OF CRC M6=1]
[IF NON-RESPONDENT TO ONLINE SURVEY]
M7. Now do you recall the CRC?

1	Yes	M8
2	No	S1
99	Don't know	S1

[IF NON-RESPONDENT TO ONLINE SURVEY]
[AND ONLY IF CUSTOMER WAS CONTACTED BY OR HAD A MEETING WITH SDG&E ACCOUNT EXECUTIVE OR OTHER SDG&E REPRESENTATIVE; MC1=4]

M8. Did your SDG&E Account Executive explain the CRC?

1	Yes	M9
2	No	M9
99	Don't know	M9

[IF NON-RESPONDENT TO ONLINE SURVEY]
M9. Did you select your CRC?

1	Yes	Explain
2	No	M11
99	Don't know	M11

- How did you select your CRC? (open ended) M10

[IF NON-RESPONDENT TO ONLINE SURVEY]
[IF CUSTOMER SELECTED CRC]
M10. Do you think the default CRC should be at 50% or some other level?

1	Yes, it should remain at 50%.	S1
2	No, the default CRC should be lower	S1
3	No, the default CRC should be higher	S1
99	Don't know	S1

[IF NON-RESPONDENT TO ONLINE SURVEY]
M11. You were given bill protection for a full year after defaulting to the CPP-D rate, which protected you from paying more on the new rate than you would have paid under the time-of-use rate. Did you understand that you had that bill protection?

1	Yes	M12
2	No	M13
99	Don't know	M13

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER KNOWS HE/SHE HAS BILL PROTECTION]

M12. How important was having bill protection in influencing your decision to stay on the CPP-D rate?

1	Very important	M13
2	Somewhat important	M13
3	Not very important	M13
4	Not important at all	M13
98	Don't know how important it was	M13
99	Don't know what bill protection is	M13

[IF NON-RESPONDENT TO ONLINE SURVEY]

M13. Is the difference between your CPP-D rate and the otherwise applicable rate enough to justify remaining on the CPP-D rate?

1	Yes	M14
2	No	M14
99	Don't know	M14

[IF NON-RESPONDENT TO ONLINE SURVEY]

M14. Did you do an analysis to help you decide whether to stay on the CPP-D rate? (If customer ran analysis, determine whether or not he/she used SDG&E My Account tool)

1	Yes, my organization ran its own analysis	S1
2	Yes, my organization used SDG&E's My Account tool to run an analysis	M15
3	Yes, my account executive ran SDG&E's My Account tool to run an analysis for me	S1
4	Other, specify_____	S1
5	No	S1
99	Don't know	S1

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER USED MY ACCOUNT TOOL; M14=2]

M15. Was the online billing analysis tool easy or difficult to use?

1	Easy	S1
2	Difficult	Explain
99	Don't know	S1

- If difficult to use, why? S1

CUSTOMER SATISFACTION

S1. Do you have any general suggestions for improving the CPP-D rate? (open-ended) I1

DEMAND RESPONSE AND ENERGY EFFICIENCY INTEGRATION

[IF NON-RESPONDENT TO ONLINE SURVEY]

I1. Has your organization participated in any SDG&E energy efficiency programs?

1	Yes	Explain
2	No	I2
99	Don't know	I2

- If yes, which ones? I2

[IF NON-RESPONDENT TO ONLINE SURVEY]

I2. How well do you think you understand the difference between energy efficiency and demand response? (open end) I3

[IF NON-RESPONDENT TO ONLINE SURVEY]

I3. How clear are the messages and communications coming from SDG&E about energy efficiency and demand response? (open end) I4

- (If messages are confusing or unclear) Please explain. I4

[IF NON-RESPONDENT TO ONLINE SURVEY]

I4. Do you have any suggestions for improving SDG&E communications about energy efficiency and demand response programs? (open-ended) C1

COMPANY/ORGANIZATION CHARACTERISTICS

[IF NON-RESPONDENT TO ONLINE SURVEY]

C1. What is the main activity performed at the facility (facilities) where you work? (Do not read list)

1	Office	C2
2	Retail (non-food)	C2
3	College/university	C2
4	School	C2
5	Grocery store	C2
6	Convenience store	C2
7	Restaurant	C2
8	Health care/hospital	C2
9	Hotel or motel	C2
10	Warehouse	C2
11	Personal Service	C2
12	Community Service/Church/Temple/Municipality	C2
13	Industrial Electronic & Machinery	C2
14	Industrial Mining, Metals, Stone, Glass, Concrete	C2
15	Industrial Petroleum, Plastic, Rubber and Chemicals	C2
16	Other Industrial	C2
17	Agricultural	C2
18	Transportation/Telecommunications/Utility	C2
77	Other (SPECIFY)	C2
99	Don't know	C2

[IF NON-RESPONDENT TO ONLINE SURVEY]

C2. What is the approximate number of full-time workers employed by your organization at this facility (at these facilities)? (Do not read list)

1	1 to 10	C3
2	11 to 50	C3
3	51 to 100	C3
4	100 to 250	C3
5	251 to 500	C3
6	501 to 1000	C3
7	Or, over 1000	C3
99	Don't know	C3

[IF NON-RESPONDENT TO ONLINE SURVEY]

C3. Does your organization have a backup generator on site?

1	Yes	C4
2	No	GC1
99	Don't know	GC1

[IF NON-RESPONDENT TO ONLINE SURVEY]
[IF C3 = 1]

C4. Have you used on site backup generation in the past to help you respond to a demand response program event?

1	Yes	GC1
2	No	GC1
99	Don't know	GC1

Thank and Terminate

Thank you for taking the time to speak with me today. In appreciation of your feedback, we would like to send you a gift card.

Thank you again for taking the time to speak with me.

5.3 CPP-D Opt-Out Telephone Surveys

INTRODUCTION

IN1. I'm calling on behalf of SDG&E.

[IF NON-RESPONDENT TO ONLINE SURVEY]

We are trying to get feedback from demand response customers in order to improve demand response programs and tariffs in the state of California. Is it OK if I ask you a few questions?

[IF ONLINE SURVEY RESPONDENT]

Our records indicate that you completed our online survey about demand response programs. Thanks again for taking the time to complete the online survey. We'd like to ask you a few more specific follow-up questions. Would that be OK?

1	Yes	IN2
2	No	IN3
99	Don't know	IN2

[IF NON-RESPONDENT TO ONLINE SURVEY]

IN2. Are you the person most knowledgeable about energy usage in your organization?

1	Yes	Incentive
2	No	IN3
99	Don't know	IN3

[IF NON-RESPONDENT TO ONLINE SURVEY]

IN3. Is there someone else at your organization I can speak with about your organization's energy usage?

1	Yes	Contact info.
2	No	Terminate
99	Don't know	Terminate

Contact information:

Record contact information of person at organization who is able to speak about demand response:

_____

_____

Incentive:

As an incentive for speaking with me today about your organization's energy management, we are offering $10 gift cards. P1

DEMAND RESPONSE RATE AWARENESS

P1. Our records indicate that your organization opted out of the Critical Peak Pricing rate (CPP-D), an electricity rate offered by San Diego Gas & Electric.

[IF NON-RESPONDENT TO ONLINE SURVEY]

Are you aware that your organization opted out of being on this rate?

[IF ONLINE SURVEY RESPONDENT]

Is this information still correct?

1	Yes	P2
2	No	Prompt
99	Don't know	Prompt

[IF CUST. NOT AWARE OF ENROLLMENT]

Prompt:

Critical Peak Pricing is a demand response rate that charges a higher price during a demand response program event and lower rates the rest of the year, compared to your standard time-of-use rate. SDG&E notified you about a year ago that you would be automatically switched to the new CPP rate from your old rate, and your organization opted out and chose to remain on your standard time-of-use rate.

[IF CUST. NOT AWARE OF ENROLLMENT]

P2. Now do you recall opting out of Critical Peak Pricing rate?

1	Yes	P3
2	No	Terminate
99	Don't know	Terminate

P3. Why did your organization choose to opt out of CPP-D? (open-ended) P4

P4. Would your organization be interested in changing to the Critical Peak Pricing rate or participating in another Demand Response program in the future?

1	Yes	Explain
2	No	Explain
99	Don't know	P5

- If yes, why would your organization be interested in demand response?
- If no, why isn't your organization interested in demand response?

[IF NON-RESPONDENT TO ONLINE SURVEY]

P5. What is your job title? (do not read list)

1	Facilities Manager	P5
2	Energy Manager	P5
3	Other facilities management/maintenance position	P5
4	Chief Financial Officer	P5
5	Other financial/administrative position	P5
6	Proprietor/Owner	P5
7	President/CEO	P5
8	Plant Manager	P5
9	Controller	P5
10	Engineer	P5
11	Operations	P5
77	Other (Specify)	P5
99	Don't Know	P5

P6. Do you manage a single site or multiple sites?

1	Single site	M1
2	Multiple sites	M1
99	Don't know	M1

MARKETING AND COMMUNICATION

I'm now going to ask you a few questions about communications you receive from SDG&E on demand response programs

[IF NON-RESPONDENT TO ONLINE SURVEY]

M1. How did you first learn about the CPP-D rate? (select all that apply; do not read list)

1	Pamphlet/Mail from SDG&E	M3
2	Email communication from SDG&E	M3
3	SDG&E website	M3
4	Phone call/meeting with SDG&E account executive or other SDG&E representative	M2
5	Attended an SDG&E presentation in person	M3
6	Watched an online video about the CPP-D rate	M3
77	Other, Specify_____	M3
99	Don't know	M3

[IF NON-RESPONDENT TO ONLINE SURVEY]

[IF CUSTOMER FOUND OUT ABOUT RATE FROM ACCOUNT EXECUTIVE OR OTHER SDG&E REPRESENTATIVE]

M2. Did the SDG&E account executive or representative explain the CPP-D rate to you?

1	Yes	M3
2	No	M3
99	Don't know	M3

[IF NON-RESPONDENT TO ONLINE SURVEY]

M3. Did you understand that the CPP-D rate would result in a lower rate than the otherwise applicable rate for the rest of the year and a higher rate during a demand response event?

1	Yes	M4
2	No	M4
99	Don't know	M4

[IF NON-RESPONDENT TO ONLINE SURVEY]

M4. Under the CPP-D rate, did you think that you had to shut down your operations completely during a demand response event?

1	Yes	M5
2	No	M5
99	Don't know	M5

[IF NON-RESPONDENT TO ONLINE SURVEY]

M5. When learning about the CPP-D rate, did you understand the Capacity Reservation Charge (CRC)?

1	Yes	M6
2	No	M6
99	Don't know	M6

[IF CUSTOMER ASKS WHAT CRC IS]

- The CRC is a fixed monthly fee that you pay in order to reserve a specific amount of electricity that won't be exposed to the higher peak demand event rate.

[IF NON-RESPONDENT TO ONLINE SURVEY]

[AND ONLY IF CUSTOMER WAS CONTACTED BY OR HAD A MEETING WITH SDG&E ACCOUNT EXECUTIVE OR OTHER SDG&E REPRESENTATIVE; M1=4]

M6. Did your SDG&E account executive explain the Capacity Reservation Charge (CRC) to you?

1	Yes	M7
2	No	M7
99	Don't know	M7

M7. Are you satisfied with the information you have received from SDG&E about CPP-D?

1	Yes	M8
2	No	M8

99	Don't know	M8

M8. Do you have any suggestions for improving communication about CPP-D (open-ended) M9

M9. Did you do an analysis to help you decide whether to stay on the CPP-D rate? (do not read list)

1	Yes, my organization ran its own analysis	M11
2	Yes, my organization used SDG&E's My Account tool to run an analysis	M10
3	Yes, my account executive ran SDG&E's My Account tool to run an analysis for me	M11
77	Other, specify_____	M11
5	No	M11
99	Don't know	M11

[IF CUSTOMER RAN OWN ANALYSIS WITH SDG&E MY ACCOUNT TOOL; M9=2]

M10. How difficult or easy was it for you to use the online billing analysis (My Account) tool? (open-ended) M11

M11. What changes would need to take place in order for you to decide to opt back into the CPP-D rate? (open-ended) M12

M12. Are you aware that SDG&E has a program that offers free audits and financial incentives for customers who need additional technical equipment to participate in demand response programs?

1	Yes	M13
2	No	M13
99	Don't know	M13

M13. Is that something you would be interested in?

1	Yes	I1
2	No	I1
99	Don't know	I1

DEMAND RESPONSE AND ENERGY EFFICIENCY INTEGRATION

[IF NON-RESPONDENT TO ONLINE SURVEY]

I1. Has your organization participated in any SDG&E energy efficiency programs?

1	Yes	Explain
2	No	I2

99	Don't know	I2

- If yes, which ones? I2

[IF NON-RESPONDENT TO ONLINE SURVEY]

I2. How well do you think you understand the difference between energy efficiency and demand response? (open end) I3

[IF NON-RESPONDENT TO ONLINE SURVEY]

I3. How clear are the messages and communications coming from SDG&E about energy efficiency and demand response? (open end) I4

- (If messages are confusing or unclear) Please explain. I4

[IF NON-RESPONDENT TO ONLINE SURVEY]

I4. Do you have any suggestions for improving SDG&E communications about energy efficiency and demand response programs? (open-ended) C1

COMPANY/ORGANIZATION CHARACTERISTICS

[IF NON-RESPONDENT TO ONLINE SURVEY]

C1. What is the main activity performed at the facility (facilities) where you work? (Do not read list)

1	Office	C2
2	Retail (non-food)	C2
3	College/university	C2
4	School	C2
5	Grocery store	C2
6	Convenience store	C2
7	Restaurant	C2
8	Health care/hospital	C2
9	Hotel or motel	C2
10	Warehouse	C2
11	Personal Service	C2
12	Community Service/Church/Temple/Municipality	C2
13	Industrial Electronic & Machinery	C2
14	Industrial Mining, Metals, Stone, Glass, Concrete	C2
15	Industrial Petroleum, Plastic, Rubber and Chemicals	C2
16	Other Industrial	C2
17	Agricultural	C2
18	Transportation/Telecommunications/Utility	C2
77	Other (SPECIFY)	C2

99	Don't know	C2

[IF NON-RESPONDENT TO ONLINE SURVEY]

C2. What is the approximate number of full-time workers employed by your organization at this facility (at these facilities)? (Do not read list)

1	1 to 10	C3
2	11 to 50	C3
3	51 to 100	C3
4	100 to 250	C3
5	251 to 500	C3
6	501 to 1000	C3
7	Or, over 1000	C3
99	Don't know	C3

Thank and Terminate

Thank you for taking the time to speak with me today. In appreciation of your feedback, we would like to send you a gift card.

Thank you again for taking the time to speak with me.