

# **Appendix B**

## **Program Implementation**

### **Plans (PIPs)**

**Proposed Demand Response  
Program Implementation Plan (PIP)  
2012-2014**

**Base Interruptible Program (BIP)  
Program Implementation  
Plan (PIP)**

**Proposed Demand Response  
Program Implementation Plan (PIP)  
2012-2014**

**Program Name**

Base Interruptible Program (BIP)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Base Interruptible Program	\$1,113,000	\$1,283,000	\$1,783,000	\$ 4,179,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Base Interruptible Program	10 MW	13 MW	16 MW

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012-2014 Cost Effectiveness
Base Interruptible Program	0.98

**Program Descriptors**

- **Market Sector**
  - Non-Residential
- **Program Classification**
  - Core
- **Program Statement**
  - BIP is a continuation of the program that commenced in 2001 and offers a monthly capacity payment to non-residential customers who can commit to curtail at least 15% of Monthly Average Peak Demand, with a minimum load drop of 100 kW.
  - BIP will use the CAISO's Reliability Demand Response Product (RDRP) in the 2012-2014 program cycle to bid into the wholesale market, in accordance with CPUC Decision (D.) 10-06-034, adopting the "Reliability-Based Demand Response Settlement Agreement" (Settlement Agreement) in Rulemaking R.07-02-041. The Settlement Agreement also caps emergency program enrollment and SDG&E will keep BIP below the level established in that proceeding.

**Proposed Demand Response  
Program Implementation Plan (PIP)  
2012-2014**

- While BIP is and will continue to be a retail demand response product that enables emergency responsive demand response resources to state and local situations, modifications will be necessary to meet the requirements of the CAISO RDRP during the 2012 – 2014 program cycle. SDG&E will begin modifying and transitioning its BIP product based upon the CAISO RDRP business requirements that have a projected release date of spring of 2012. SDG&E anticipates that the program will be fully compliant with the RDRP requirements during the 2012-2014 program cycles.
- Based on the preliminary design documents provided by the CAISO, SDG&E anticipates making the following modifications to the existing BIP program design:
  - Option B will be eliminated as it does not comply with notification timelines for the RDRP product and historically there is very limited participation in this option
  - Incentive payments will be differentiated by season to better reflect the capacity value of the program on a monthly basis and in alignment with SDG&E’s Resource Adequacy needs
  - Require a test event annually if no event is triggered based on program criteria
- **Program Fundamentals**
  - See Base Interruptible Program Tariff

**Program Rationale and Expected Outcomes**

- **Implementation Design**
  - **Delivery mechanisms**
    - BIP program can be called for multiple reliability-only events, including system emergencies (CAISO alerts and stages), Transmission emergencies (loss of resources), and Local transmission and distribution system (overload) emergencies.
    - Program participants are notified of a curtailment event via the internet and alpha numeric page and have 30 minutes from the time of receipt of notice to curtail to achieve load their load drop
  - **Incentives**
    - Customers receive a monthly capacity payment and are subject to Excess Energy Charges if they do not achieve their firm service level during an event in the manner detailed in the tariff
  - **Delivery and Coordination**
    - As an emergency program, BIP is designed to be responsive to the CAISO objective to avoid involuntary load shedding when all market based options have been exhausted.
  - **Program objectives**
    - Provide a highly dependable quantity of DR that can be called on to mitigate transmission system emergencies or contribute to system reliability needs during extreme emergencies.
  - **Program cycle**
    - 2012 - 2014

**Proposed Demand Response  
Program Implementation Plan (PIP)  
2012-2014**

**Program Strategy**

- **Target Audience**
  - Medium to large Commercial and Industrial customers who can curtail up to 15% of their firm service level and minimum 100kW and Aggregators who can provide a minimum of 1MW of curtailable load.
- **Marketing, Education & Outreach**
  - The BIP outreach and marketing effort is limited and focuses on educating relevant customers with expressed interest to first explore DR program opportunities that are not restricted to emergency situations.
- **Aggregator Considerations**
  - BIP will be designed to enable participation of an Aggregator with large or small aggregated resources that may be configured to offer energy economically in response to a reliability event for the delivery of energy in a real-time emergency.
- **CAISO Relationship**
  - The proposed modifications to the program that will be made to comply with the Settlement Agreement will allow BIP to integrate into the California ISO market and operations and be dispatched by the CAISO real-time economic dispatch algorithm. The enrollment caps for the program which are also required by the Settlement Agreement are designed to limit the amount of DR that is not visible to the CAISO wholesale market process.
- **Statewide Coordination**
  - The CPUC, CAISO, PG&E and SCE are parties to the Settlement Agreement and the modifications to BIP are consistent with the direction and efforts to modify other emergency DR programs throughout the State.
- **Integrated/coordinated DSM**
  - Participation in BIP does not interfere with a customer's ability to invoke Energy Efficiency measures. The use of a firm service level for event measurement and the Excess Energy charge create a need for an increased level of active energy management, providing an incentive for participants to seek additional tools and opportunities to manage their energy use.

**EM&V**

- Annually a load impact evaluation of the program will be conducted in accordance with the load impact protocols including a ten year forecast based on ex-post event results. The impact evaluation will be completed by April 1<sup>st</sup> each year and will be filed with the CPUC. Additionally, other analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three year cycle to be used to inform future program design and to evaluate and improve the operation of the program.

**Pilots**

- As an emergency program that is ultimately limited by the enrollment caps imposed by D.10-06-034, any pilot activity associated with the program would be for enabling technologies from other programs and not exclusive to BIP.

**Capacity Bidding Program (CBP)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Capacity Bidding Program (CBP)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Capacity Bidding Program	\$3,648,000	\$4,053,000	\$4,238,000	\$ 11,939,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Capacity Bidding Program Day-ahead	10 MW	11 MW	11 MW
Capacity Bidding Program Day-of	22 MW	24 MW	26 MW

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012 -2014 Cost Effectiveness
Capacity Bidding Program Day-Ahead	0.93
Capacity Bidding Program Day-Of	1.09

**Program Descriptors**

- **Market Sector**
  - Non-Residential
- **Program Classification**
  - Core
- **Program Statement**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

- The CBP is the continuation of the program begun in 2007. The program offers participants the ability to earn incentive payments for load reduction during specific periods of time identified as service products within the program.
- CBP is available Commercial and industrial customers, greater than 20 kW, receiving bundled service, Direct Access service or Community Choice Aggregation service and being billed on a commercial, industrial or agricultural rate schedule are eligible to enroll. Customers may also enroll through a third party demand response providers (Aggregators).
- The 2012-2014 Capacity Bidding Program continues to offers participants three different options to provide for different lengths of time for load reduction commitments.
- The annual capacity payments for the two to six hour and four to eight hour products will have a 10% premium over the one to four hour product to reflect the increased value of DR capacity that provides at least five hour events.
- Monthly capacity payments for July through September are higher than May, June and October to reflect the higher value during those months.
- SDG&E proposes to change the settlement calculation during 2012-2014 using an aggregated baseline calculation and allowing for a day-of adjustment of up to 40%.
- Aggregators that enroll new customers will have the option of signing a three year contract with SDG&E to guarantee revenue in an effort to incent aggregators to expand offerings to smaller loads
- Participant must remain in the program for a minimum of 12 calendar months.
- SDG&E also proposes enabling CBP for bidding as PDR during the 2012-2014 program cycle. In order to match CAISO PDR registration timelines, the enrollment and nomination due dates associated with PDR are proposed to be 15 days earlier than previously required.
- **Program Fundamentals**
  - See Tariff

**Program Rationale**

- **Implementation Design**
  - **Delivery mechanisms**
    - CBP program can be called for multiple reasons, including system emergencies (CAISO alerts and stages), transmission emergencies (loss of resources), and local transmission and distribution system (overload) emergencies.
    - The Capacity Bidding Program will hold at least one program event per year in order to maintain consistency with the requirements on other sources of Qualifying Capacity.
  - **Incentives**
    - Participants receive a monthly capacity payment as well as an energy payment for events called in both the “Day-Ahead” and “Day-Of” options. In both options the participant is also subject to penalties for non-performance.
  - **Delivery and Coordination**
    - The program offers both day-ahead and day-of options and operates during peak load season (May – October) and provides for up to 24 hours of load reduction per product per month.
  - **Program objectives**
    - Provide a highly dependable quantity of DR that can not only be relied upon to address local transmission emergencies but can also be used as a resource to bid into the CAISO wholesale market instead of using generation.



**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

- **Program cycle**
  - 2012 - 2014

**Program Strategy**

- **Target Audience**
  - Non-Residential Customers with a demand greater than 20 kW
  - Aggregators who can provide technology and energy management services to small commercial customers
- **Marketing, Education & Outreach**
  - SDG&E plans to market this program directly to large customers through third party Aggregators and SDG&E Account Executives. This segment is already familiar with the objectives of demand reduction and many of the available programs. The following specific marketing activities are planned.

<b>Date</b>	<b>Activity</b>
2012-2014	Conduct two Annual off site Customer Trainings
2012-2014	Present Information at Aggregators Sponsored Forums
2012-2014	Develop and Distribute Fact Sheets
2012-2014	Conduct special training for Aggregators
Each year	A Customer Recognition Newspaper Ad

- **Aggregator Considerations**
  - CBP will be designed to enable participation by Aggregators with large or small aggregated resources that may be configured to offer load reduction economically in response to a curtailment event. Ongoing coordination with Aggregator participants include marketing and special training as outlined above to encourage participation and ensure that all eligible aggregators have the opportunity to participate.
- **CAISO Relationship**
  - CBP will be enabled to provide for bidding as a PDR resource into the CAISO wholesale markets during 2012-2014.
- **Statewide Coordination**
  - Regular joint utility communications to provide CBP consistency throughout the State.
- **Integrated/coordinated DSM:**
  - Encourage IDSM by emphasizing Demand Response opportunities during the Energy Efficiency TA audit.
  - As DR enabling technologies are integrated onto the AMI Network the utility will have to ensure that this process is handled efficiently and securely. As these enabling technologies emerge, the utility will have to work with manufacturers to ensure technologies can be added to the network efficiently and seamlessly. Negative technology integration impacts may include; lengthy installation times, communication failures between the enabling technology and the AMI network,

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

security breaches to utility back-office or participant site. To overcome these barriers the utility will work closely with manufacturers to test and ensure the enabling technology integration happens as required and expected by utility Management, IT, and Security staff.

- Participants will receive marketing information on IDSM opportunities concerning Energy Efficiency and self-generation.
  
- **EM&V**
  - Annually a load impact evaluation of the program will be conducted in accordance with the load impact protocols including a ten year forecast based on ex-post event results. The impact evaluation will be completed by April 1<sup>st</sup> each year and will be filed with the CPUC. Additionally, other analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three year cycle to be used to inform future program design and to evaluate and improve the operation of the program.
  
- **Pilots**
  - During 2011 SDG&E plans to implement the Demand Response Wholesale Market Pilot (DRMWP). This pilot will include activities to test and support the enablement of PDR capabilities

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Peak Time Rebate (PTR)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**PROGRAM NAME**

Peak-Time Rebate (PTR)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Peak Time Rebate	\$2,658,000	\$831,000	\$864,000	\$4,353,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Peak Time Rebate <sup>1</sup>	69	70	71

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012 -2014 Cost Effectiveness
Peak Time Rebate	4.04

**Program Descriptors**

- **Market Sector**
  - Residential
- **Program Classification**
  - Core

**Program Statement**

- The Peak Time Rebate (PTR) schedule tariff was approved by the Commission in Decision 08-02-015. This Schedule is applicable, in combination with the customers' otherwise applicable rate schedule. This tariff is applicable to electric bundled residential customers with an installed smart meter on an individually metered service point which has been tested and verified according to SDG&E procedures.
- The tariff provides a bill credit for each kWh of actual reduction during each PTR event. Customers with enabling technology receive a higher bill credit. As described in the tariff, an enabling technology is defined as technology which can be initiated through a signal from the Utility to

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<sup>1</sup> The Peak Time Rebate program was approved by the Commission in D. 08-02-015. Load impacts from this program are not reflected in this PIP in order to avoid any potential double counting of benefits not considered by the funding requests contained in this application

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

- reduce electric use for specific end use equipment or appliances and has been registered with the Utility by the customer.
- The key objectives of this program are to supplement the approved tariff by providing an overall educational campaign for residential customers about the PTR tariff and how to benefit from participation. All eligible SDG&E customers will receive information about the rate and be provided with conservation tips and the benefit of utilizing enabling technologies to maximize their bill credit. The budget is higher in the first year in conjunction with the roll-out of PTR for customers who have Smart Meters installed and are therefore able to participate in the PTR.
  - There are no penalties for non-participation if the customer does not reduce usage below their PTR customer-specific reference level; customer is billed on their applicable rate as they would be for a non-event day.
  - The PTR program, for the first time on a large scale, will allow customers to participate in a rate based program. The PTR program will evaluate the acceptance and participation on this rate based program. With the emergence of dynamic pricing PTR serves as a stepping stone to familiarize residential customers with the benefits of a rate based program.
  - **Program Fundamentals**
    - Included in Tariff
  - **Non-incentive customer services**
    - PTR will provide a means for SDG&E to demonstrate to residential customers some of the benefits of smart metering. These include:
      - Greater visibility into usage
      - Capability and demonstration of aggregating demand response for the benefit of the community
      - Detailed response feedback

**PROGRAM RATIONALE AND EXPECTED OUTCOMES**

- **Implementation Design**
  - With the completion of Smart Meter installations territory wide by 2012, SDG&E will have the opportunity to implement the approved Peak Time Rebate (PTR) Tariff Schedule. Smart Meters provide a platform for a variety of new energy products and services to help residential customers manage their energy consumption and associated costs. In addition, the implementation of the PTR tariff allows SDG&E's customers a unique opportunity to:
    - Receive increased Demand Response benefits through active participation;
    - Receive higher incentives through Enabling Technologies;
    - Become more educated about conservation and energy efficiency;
    - Take the first step in preparation for dynamic pricing.
  - A PTR event may be called on any day of the year. There is no limit to the number of PTR events that may be called. As such this program will support a year round educational campaign in order to maximize program participation. If no events are called in a year, a test event will be scheduled to test related systems, notifications, and customer performance.
- **Program cycle**
  - 2012-2014

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**PROGRAM STRATEGY**

- **Target audience**
  - All SDG&E Residential Customer Segments will be targeted.
- **Marketing, Education & Outreach**
  - The PTR program marketing effort focuses on creating program specific material highlighting the benefits to relevant customers with expressed interest and a call to action and develops marketing materials and messages that make it easy for the customer to engage in the enrollment process.
  - The objectives of the Marketing, Education, & Outreach (ME&O) Strategy are:
    - Educate customers on how demand response and PTR are mutually beneficial.
    - Educate customers on the PTR Rate and their eligibility.
    - Get customers to enroll for individual event notifications and event performance feedback, which will help to achieve demand reduction MW goals.
  - The educational campaign required to optimize program participation with PTR includes the following:
    - Rate Introduction
      - Rate education and eligibility – direct mail, web
    - Event notification education - channels offered and how to sign up
      - Pre-event notifications – email, text (SMS)
      - Post-event performance – email, SMS, bill
    - Conservation tips – via direct mail, web
- **Program Delivery**
  - All residential customers will receive educational materials about the new PTR rate when they are eligible to participate. The educational materials will inform and motivate customers to sign up for PTR notifications.
  - PTR will also use new communication channels to inform customers on event days. Day-ahead notifications will be utilized for PTR to allow customers sufficient time to change their energy use prior to the event (ex. changing their thermostat settings before heading to work).
  - Customers will also be educated about demand response event days, their eligibility to participate on the event days, how and why they are receiving a bill credit, and conservation tips on how they can maximize their bill credit. This education will utilize direct mail, email, web, and other communication channels as they become available to educate customers on PTR.
  - Customers will be able to enroll for PTR event and performance feedback notifications via email and/or text (SMS).
    - Mass media, web, and social media may also be utilized for notifying customers who do not enroll for email or SMS notifications.
    - Event notifications will provide customers with an email and/or SMS the day-before the event.
  - PTR will include several elements as a way to influence behavior/performance.
    - Provide access to online tools for participants to manage their energy.
    - Provide customers with choice, control, and convenience.
      - Choice – Customer can choose how they want to be communicated with.
      - Control – Customers can control how often they are communicated to; control their energy use with specific energy savings goals (i.e. customer-specific reference level); etc.

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

- Convenience – Customers can take action when it is convenient for them when they receive a communication from SDG&E (i.e. day-ahead event notification). Customers can also evaluate their event performance when it is convenient for them.
- **Customer Research & Feedback**
  - The PTR program will utilize all pertinent process and program impact research data collected from Measurement Evaluation studies. Additional research may be employed to evaluate ongoing activities related to program implementation. These research tools may include:
    - Customer Satisfaction Surveys
      - Online
      - Mail in
    - Notification Messaging
      - Timing of receipt of messaging
    - Program Effectiveness
      - Analyzing the hourly event performance, notifications, customer-specific reference levels, etc. will allow the program effectiveness to be measured and identify ways to improve.
      - Measuring event and non-event changes in energy use and/or receipt of notifications will allow the program to measure if notifications are successfully contributing to load reduction.
  - Event Performance Feedback
    - Currently customers have to wait for event performance information to appear on monthly bills when events are called. Upon full deployment of the PTR technology solution, SDG&E will provide customers with their customer-specific reference level which provides an energy baseline which they should aim to conserve below during a PTR curtailment event. Customers will also receive event performance feedback the day after the event. Providing customers with feedback sooner will help customers understand how their actions result in energy savings
    - Customers will be provided their event performance even if they were not able to reduce below their customer-specific reference level.
- **Aggregator Considerations: NA**
- **CAISO Relationship: NA**
- **Statewide Coordination**
  - Regularly scheduled meetings/phone calls with the other California IOUs will take place for PTR. Best Practices and lessons learned will be shared with local and statewide groups.
- **Integrated/coordinated DSM: NA**
- **Integrate across other demand response initiatives:**
  - Program will be served by the enabling technologies provided by the Residential Technology Deployment Pilot and the Residential New Construction Pilot
- **EM&V**
  - Annually a load impact evaluation of the program will be conducted in accordance with the load impact protocols including a ten year forecast based on ex-post event results. The impact evaluation will be completed by April 1st each year and will be filed with the CPUC. Additionally, other analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

year cycle to be used to inform future program design and to evaluate and improve the operation of the program.

- **Pilots**
  - The proposed New Construction pilot will provide technology infrastructure that enables PTR.



**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Technical Assistance (TA)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Technical Assistance (TA)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	2012-2014 Budget
Technical Assistance	\$3,321,000	\$0	\$0	\$3,321,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Technical Assistance	N/A	N/A	N/A

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012 -2014 Cost Effectiveness
Technical Assistance	N/A

**Program Descriptors**

- **Market Sector**
  - Non-Residential
- **Program Classification**
  - Core
- **Program Statement**
  - The program provides qualified commercial customers with a demand response audit generally at no charge contingent upon the customer enrolling in a qualified Demand Response (DR) program or rate for one year. The program will pay up to one hundred dollars for the approved kW identified by the audit. This “incentive” is paid directly to the auditor. The customer has the option of choosing their own auditor or having the Utility choose one on their behalf. An extensive report is produced, identifying demand response opportunities and recommending strategies to be implemented and then leading them to one of SDG&E’s DR programs. The ultimate goal is to have customers move from the audit phase to the implementation stage and enabling the strategies identified.

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

- Emphasis will be placed on identifying both EE and DR opportunities and encouraging the customer to move forward with all recommendations.
- An integrated approach to EE and DR will be the goal of the program, making it as seamless as possible to the customer
- A bonus will be paid to the auditor if the EE measures identified in the audit are installed.
- Implementing Auto-DR will be the ultimate goal with every audit that is prepared for the customer.
- **Measures:**
  - Gas and Electric measures are not a direct part of this program; however, measures will be identified as part of the audit.
- **Non-incentive customer services**
  - The program offers free workshops to both end use customers, auditors and vendors, who might be implementing the technologies identified.

**Program Rationale**

- **Implementation Design**
  - **Delivery mechanisms**
    - The Technical Assistance Program is driven through the utility Account Executives, Program Advisors, Segment Advisors, aggregators, controls vendors, and engineering consultants. It is also promoted through utility held workshops and business associations.
    - The Account Executives will be involved in promoting the Technical Assistance audit to their customers and moving them to an appropriate Demand Response Program, based on audit findings.
  - **Incentives:**
    - The TA Program does not provide ongoing incentives, but rather covers all or part of the cost of conducting the energy audit.
  - **Delivery and coordination**
    - Integrated audits will be stressed so that both demand response and energy efficiency concerns and opportunities are met for the customer.
    - To support Integrated Demand Side Management (IDSMS), funding will be set aside to provide energy efficiency audits to the same facility that received a demand response audit, under the TA/TI program.
    - SDG&E believes that approaching each customer with a “whole system” solution will attract more interest and promote overall efficiencies.
    - The economic downturn will be a barrier in moving customers to implement any suggestions that would be funded from their operating budgets.
- **Program Cycle**
  - 2012-2014

**Program Strategy**

- **Target Audience**
  - The Technical Assistance Program is geared to any commercial, industrial or agricultural customer with a monthly on-peak demand of at least one meter with 100kW of demand or greater serving

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

the facility. Its purpose is to identify automated demand response opportunities, provide suggested strategies on how to implement them and identify cost effective energy efficiency opportunities that exist.

- Recruit customers that are on or receptive to participating on one of the following programs; Critical Peak Pricing Default, Capacity Bidding, DemandSMART™, Base Interruptible or authorized pilots.
- **Education & Outreach**
  - The TA marketing effort focuses on creating program specific material highlighting the benefits to relevant customers with expressed interest and a call to action and develops marketing materials and messages that make it easy for the customer to engage in the enrollment process.
  - At least one Utility sponsored workshop will be held each year to educate and direct customers to the audit process. Presentations will be made by Segment Advisors, Program Advisors and Account Executives to various business associations promoting the program.
  - The program is typically marketed through the utility Account Executive, for the larger assigned customers. Program Advisors, Segment Advisors, Aggregators, controls' vendors and auditors will be utilized to reach smaller customer.
- **Customer Research and Feedback**
  - Audit results with the customer findings will be presented within thirty days.
  - SDG&E will endeavor to review the audit in person, rather than simply sending it out to the customer to provide a better opportunity to overcome any resistance or objections to the recommendations by the customer.
  - A customer survey will be requested following the completion and review of the audit to evaluate the process and their experience with the program.
- **Aggregator considerations**
  - Aggregators provide a set of "feet on the street" for utility programs. Additional qualified aggregators will be pursued and encouraged to participate in the programs.
- **CAISO Relationship:** NA
- **Integrated DSM**
  - The program will continue to emphasize Energy Efficiency and Demand Response opportunities seeking to integrate EE and DR during the TA audit process. Due to the comprehensive nature of the TA audit and the emphasis on EE and DR integration, funding for the program in 2013 and beyond will be a part of SDG&E's IDSM funding requests

**EM&V**

- Analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three year cycle to be used to inform future program design and to evaluate and improve the operation of the program.

**Pilots** N/A

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Technology Incentives (TI)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Technology Incentives (TI)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Technical Incentives	\$3,014,000	\$3,023,000	\$3,032,000	\$9,069,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Technical Incentives	N/A	N/A	N/A

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012 -2014 Cost Effectiveness
Technical Incentives	N/A

**Program Descriptors**

- **Market Sector**
  - Non-Residential
- **Program Classification**
  - Core
- **Program Statement**
  - The program provides qualified commercial customers with incentives to help with technologies that enable load reduction, through automated demand response, at the customer location. The program offers up to three hundred dollars (\$300.00/kw) of approved, installed and verified kW reduction from a load shed test or 100% of the cost of installing enabling devices, whichever is less for Automated Demand Response (Auto-DR) measures. Only Auto-DR measures that meet open ADR Standards will be considered eligible for incentives under this program.
- **Measures N/A**
- **Non-incentive customer services**
  - The program offers free workshops to both end-use customers and vendors, who might be implementing the technologies that had been identified.

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Rationale**

• **Implementation Design**

- The Technology Incentives Program is primarily driven through utility Account Executives, Program Advisors, Segment Advisors, third party aggregators, controls vendors, and engineering consultants. It is also promoted through utility held workshops and business associations.
- SDG&E Account Executives will be involved in promoting the Technology Incentives program to their customers and moving them to an appropriate Demand Response Program, based on what was identified in the audit and the capability of the facility's Energy Management Systems (EMS).
- Customers receiving a Technical Incentive will be obligated to enroll and participate in at least one of SDG&E Auto-DR programs or rates, for a full year.
- Auto-DR technology provided through an aggregator will also enable SDG&E CPP Peak Day option which will provide customers on CPP-D with an incentive payment to curtail on short notice when SDG&E requires load reductions that were not evident in the Day Ahead timeframe.
- The incentive includes a performance based component based upon the customer's actual achieved load reduction using the installed Auto-DR device(s).
  - Installation Payment - 60% of the total eligible incentive will be given after installation, load shed test, and upon enrollment in a qualified DR program or rate.
  - Performance Payment - The remaining 40% of the eligible incentive is paid at the end of the first DR season or calendar year as applicable to the program or rate, following the payment of the 60% payment referenced above and is based on the actual rate of participation as determined during the DR season. The full 40% incentive balance will be paid if the customer's participation is equal to or greater than the actual load shed test reduction. If the actual performance is less than the actual load shed reduction, the Performance Payment will be reduced proportionally with the measured load reduction.
- Example of the 60%/40% split
  - TI Load Shed tested and approved for 100 kW
  - Customer can receive up to \$300/kW of approved reduction or cost of enabling, whichever is less. (eligible for up to \$30,000 incentive)
  - Total project cost is \$35,000 and since this cost is greater than the eligible incentive, the incentive payment is limited to \$30,000.
  - The Installation Payment equal to 60% of the total incentive is paid upon installation, load shed test, and enrollment (in this case \$30,000 is eligible for incentive) 60% = \$18,000
  - After one year of DR event(s) the customer's participation rate averaged 60 kW. (  $60/100 = .60$  ) The Performance Payment would thus equal 60% of the remaining \$12,000 or in this case \$7,200.
- A TI incentive mechanism, CPP Premium, is available to aggregators who provide Auto DR technology to customers participating on the Critical Peak Pricing Day Ahead rate. Evidence from the Statewide Price Pilot shows that event participation doubles for medium sized customers with enabling technologies. Providing the additional incentive to aggregators is designed to further expand Auto DR capability into the customer space.
  - TI incentive payment to Aggregator requires Auto-DR for CPP-D
  - Based on Twelve months - \$30.00/kW
  - Effective January through December
  - \$4.00/kW paid monthly May through October.
  - \$1.00/kW paid monthly November through April



## **Implementation Plan (PIP)**

**2012-2014**

### **Proposed Demand Response**

- This provides an incentive, a revenue program and performance measurement for the aggregator, which keeps the aggregator, engaged with the DR customer.
- An additional incentive mechanism is available for aggregators for day-of load reduction from customers they have signed up as part of the CPP Premium option. The payment would be for day-of load reduction from CPP-D customers with Auto-DR.
  - Effective January through December
  - Three hour notification
  - 10-in-10 baseline with 40% day-of adjustment
  - \$1.09/kWh
  - This provides a day-of load reduction opportunity for CPP-D customers
- **Program Cycle**
  - 2012-2014

### **Program Strategy**

- **Target Audience**
  - The Technology Incentives Program is geared to any commercial, industrial or agricultural customer with a monthly on-peak demand of 20 kW or greater. Its purpose is to enable/incentivize measures that were identified by the Technical Assistance audit.
  - Potential customers are those that can or are participating in one of the following programs; Critical Peak Pricing Default, Capacity Bidding, DemandSMART™, or any authorized pilot.
- **Marketing, Education & Outreach**
  - The program is typically marketed through utility Account Executive, for the larger assigned customers. Aggregators, Segment Advisors, Program Advisors, controls vendors and auditors are utilized to reach smaller customers.
  - Utility sponsored workshops will be held to educate and direct customers toward automation.
  - The TI program marketing effort focuses on creating program specific material highlighting the benefits to relevant customers with expressed interest and a call to action and develops marketing materials and messages that make it easy for the customer to engage in the enrollment process.
- **Customer Research & Feedback**
  - Follow up during the entire process with the customer needs to have higher emphasis and surveys after measures have been processed need to be continually evaluated for efficiencies and making it user friendly for the customer/vendor.
  - A customer survey will be requested following the installation and enrollment in a DR program to evaluate the process and their experience with the program.
- **Aggregator considerations**
  - Aggregators provide a set of “feet on the street” for utility programs. Additional qualified aggregators will be pursued and encouraged to participate in the programs.
  - Offering aggregators an incentive to be involved with CPP-D customers, as well as a CPP day of component, will add a new dimension to Auto-DR and at the same time emphasize energy efficiency to the customer.
- **CAISO Relationship: NA**
- **Innovation**
  - Incentives for aggregators to drive participation from non-residential customers on CPP Rate
- **Integrated DSM**
  - Emphasis will be given to identify Energy Efficiency opportunities during the entire TI process.

## **Implementation Plan (PIP)**

**2012-2014**

### **Proposed Demand Response**

- Integrated audits will be stressed so that both demand response and energy efficiency concerns are met for the customer. Approaching each customer with a “whole system” solution should attract more interest and promote overall efficiencies.
- **EM&V**
  - Analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three year cycle to be used to inform future program design and to evaluate and improve the operation of the program
- **Pilots** N/A

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Emerging Technologies Demand  
Response (ET – DR)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Emerging Technologies Demand Response (ET – DR)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Emerging Technology Demand Response	\$700,000	\$704,000	\$707,000	\$2,111,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Emerging Technology Demand Response	N/A	N/A	N/A

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012 -2014 Cost Effectiveness
Emerging Technology Demand Response	N/A

**Program Descriptors**

- **Market sectors**
  - Non-Residential
  - Residential
- **Program Classification**
  - Core
- **Program Statement**
  - The ET-DR Program consists of evaluating demand-reducing technologies and strategies that are applicable to the SDG&E region and market. The focus is on technologies and strategies that promise significant, cost-effective demand reduction in the short and/or mid-term time horizon, and that hold promise to be sufficiently reliable and scalable for market-wide implementation. Each evaluation project will address:

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**Program**

- The technology's or strategy's overall merits
- Applicability to demand reduction and related factors such as energy efficiency
- Applicability to our region, market and frameworks such as CAISO
- Applicability to existing SDG&E programs
- Possible adoption barriers
- Cost effectiveness
- Risks
- Recommendation about the utility's further support and involvement
- The program's evaluation projects may include techniques and methods that may not be exclusively technology-driven. The emphasis of each project will vary on case by case basis, and may include:
  - Technology Assessments
  - Scaled Field Placements
  - Demonstration Showcases
  - Technology Development
  - Business Incubation
  - Market / Behavior Studies
- Technologies or strategies found to be viable may subsequently be integrated into existing utility programs or become the basis for new programs in support of market introduction.
- **Program Fundamentals**
  - Eligibility- All Bundled and Direct Access customers
  - Months of Operation – Year round
  - ET-DR doesn't provide direct incentives. Instead, the program shares the pilot implementation cost at a rate between 0% and 100%. The actual rate and dollar contribution is determined on a case-by-case basis, and depends on the following factors:
    - Total project cost to pilot customer, consisting of
      - Parts
      - Installation
    - Customer Eagerness to Participate
    - Financial viability for the pilot customer (payback time)
    - Anticipated load drop.
- **Measures:**
  - HVAC - Significant demand reduction potential exists for HVAC technologies, in particular related to space cooling in the SDG&E service territory climate. Some projects will explore this potential by evaluating promising HVAC control technologies, including standalone controls as well as those that integrate with the smart grid. Special emphasis will be placed on technologies that are easy to retrofit into existing systems and buildings as these make up the majority of the untapped market.
  - Energy Storage - Decentralized energy storage can contribute to flattening the load curve by shifting demand from peak times to when inexpensive energy is abundant. Also, energy storage will support grid operations to balance local power supply and demand. Several innovative storage methods will be explored, with particular emphasis on practicality and cost effectiveness.
  - Advanced Controls - A large amount of energy is wasted in unoccupied rooms or buildings that are fully conditioned or have their lights on, or have other active consumers of electricity that do not need to be running when not actively in use. A subset of projects will focus on advanced controls that allow for intelligently curtailing, disabling or shifting this energy use such that impact to

**Implementation Plan (PIP)  
2012-2014  
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building occupants is minimal. Priority will be given to technology that integrates with existing, enabling infrastructure such as internet connections, Wi-Fi networks, BMS, AMI, home automation, etc.

- Electric Vehicles - This demonstration will complement SDG&E's EV Rate and Technology Study with temporary experimental EV rates approved by the CPUC in June of 2010. A variety of electric vehicle supply equipment (EVSE), communication and transaction processing technologies will be tested. The EVSE equipment will enable control of electric vehicle (EV) charging equipment and facilitate service pricing plan options: start/stop load control and rate-of-charge commands (240V and 120V). Observe user behavior in terms of charging equipment choices as influenced by relative ease-of-use and pricing plans that reflect the cost of each type of EV charging option.
- **Non-incentive customer services**
  - Some of our projects will have desirable secondary impacts that go beyond Demand Response. These impacts include, but are not limited to:
    - Energy Efficiency
    - Integration of Security with Controls
    - Individual Customer Education
    - Market-wide Customer Education

**Program Rationale and Expected Outcomes**

- **Implementation Design**
  - Emerging Technology starts by identifying technologies from a quarterly scan and screening process. Implementation, or technology transfer, occurs after a product has been evaluated and reported on.
- **Delivery and coordination**
  - The Emerging Technology Program is driven through the utility Account Executives, Program Advisors, Segment Advisors, aggregators, controls vendors, and engineering consultants.
  - Installation may be done in multiple instances if scalability needs to be evaluated, and/or if there is reason to believe that results may vary significantly from instance to instance.
  - Evaluation of the pilot by an independent 3rd party, with focus on relevant factors identified in the Program Statement. The 3rd party produces a report for publishing on the ETCC website.
  - Program management expresses a recommendation about the utility's further support and involvement, and if applicable, next steps.
- **Program Cycle**
  - 2012 - 2014

**Program Strategy**

- **Target Audience:**
  - Emerging Technologies will target Residential, Commercial, and Industrial customers
- **Education and Outreach**
  - New DR capable technologies will be displayed at highly visible locations around SDG&E's territory through demonstration showcases. Additionally, all emerging technology project reports will be published on the ETCC Website.
- **Customer Research and Feedback**

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**Program**

- Emerging Technology will identify potential participants using customer surveys, Smart Meter interval data, and DR participation data. Emerging Technologies will use Process evaluations to get customer feedback and improve the engagement process.
- **Aggregator considerations** N/A
- **CAISO Relationship**
  - Some products/projects that Emerging Technology investigates may interface with the CAISO wholesale market. The necessary considerations will be developed in more detail when planning each project.
- **Statewide Coordination**
  - SDG&E is a member of the Emerging Technologies Coordinating Council Reports on all projects will be published on the ETCC website.
- **Integrated/coordinated DSM**
  - DSM integration and coordination will take place on a project by project basis. In addition to Demand Response, ET projects can include: Energy Efficiency, Energy Storage and Renewable Energy Generation.
  - Projects incorporating Integrated Demand Side Management will be reported on the IDSM Quarterly reports.
- **EM&V** N/A
- **Pilots** N/A

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Small Customer Technology  
Deployment (SCTD)  
Program Implementation  
Plan (PIP)**



**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Small Customer Technology Deployment (SCTD)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Small Customer Technology Deployment	\$5,822,000	\$4,432,000	\$2,754,000	\$13,008,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Small Customer Technology Deployment	6MW	10 MW	12 MW

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012-2014 Cost Effectiveness
Small Customer Technology Deployment	0.62

**Program Descriptors**

- **Market Sector:**
  - Residential & Small Commercial
- **Program Statement:**
  - The 2012-2014 Small Customer Technology Deployment (SCTD) Program will facilitate implementation of Automated Demand Response (DR) enabling technologies at no cost to residential and small commercial customers (<100 kW). SDG&E proposes using Smart Meter interval data to identify, market to, and install load control devices in the homes of residential customers with mid-day pool pump and air conditioning usage as well as small commercial business customers with significant air conditioning loads.
  - Technology which enables the Utility to provide a signal to reduce electric use of specific end use equipment or appliances will be supported in this program. The customer must register the specific equipment and appliances with the Utility for approval. The intent is to provide a

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mechanism for customers to participate in a dynamic rate by automating load reduction associated with central air conditioning, pool pumps, electric water heaters, and other appliances.

- Tailored deployment strategies, will help to maximize the level of customer participation, use, and acceptance of commercially available demand response technologies. Technologies will focus on automated solutions enabling passive participation by a market sector that is less likely to actively engage in energy management activities.
- The SCTD Program will give participants and the utility the ability to manage various end use electric loads year round through the use of utility tested and certified enabling technology. These installed technologies will empower customers to improve DR participation and manage energy usage. With the continuous implementation of energy efficiency programs including the emergence of the statewide whole house program and its focus on comprehensive efficiency improvements, participants will also be educated about available IDSM integration opportunities.
- **Program Fundamentals**
  - Participants must remain on a rate or in a program throughout the entire cycle and must periodically verify that the enabling technology is still installed and operational. SDG&E reserves the right to remove the enabling technology at no cost to the participant.
  - The curtailment window will be dependent on the rate or program that the customer is enrolled in.
  - No direct incentives will be provided to the customer. The SCTD Program will provide and install enabling technologies at no cost to the qualifying customer.
  - SCTD's residential participants will be eligible to receive a higher PTR bill credit based on their use of a registered qualified enabling technology.
  - Customers who participate in the SCTD Program will agree to remain on a DR program or rate until December 31, 2014
  - Potential Measures
    - Lighting and associated controls
    - Direct Load Controllers
    - Programmable Communicating Thermostats (PCT)
    - Electric Water Heaters Controllers
- **Non-incentive customer services**
  - Each installed enabling technology may be supported by online presentment tools designed to provide additional functionality in terms of managing energy use during PTR event and non-event periods. As such, participating customers will not only be able to achieve load reduction during DR events, but will also have the ability to manage their energy use during non-DR event periods as well.

**Program Rationale and Expected Outcomes**

- **Implementation Design**
  - **Delivery mechanisms**
    - SDG&E customers will be contacted through direct mail, cross program marketing, internet marketing/enrollment and third party aggregator program promotion to ensure customers have various channels and means to enroll and participate in the SCTD Program.
    - SDG&E may work with small commercial DR aggregators to determine areas where cost can be minimized through aggregator based installation.
    - Events will be called based on the criteria of the program that the customer is enrolled in.

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

- **Incentives**
  - Participating customers will receive enabling technologies and at no cost and will be eligible for the program/rate incentives for which they are enrolled.
- **Delivery and coordination**
  - Program is designed to leverage AMI infrastructure and facilitate participation in existing and future dynamic rates and DR programs that the customer qualifies for.
  - The 2012-2014 SCTD programs will target customers across multiple segments (i.e. homeowners and renters). All participants must have a SDG&E Smart Meter and active SDG&E account.
  - Customers enrolled in the SCTD Program must have a qualifying end-use appliance or equipment that can be curtailed during a DR event in order to participate in the program.
  - Enrolled customers will receive the following:
    - Materials that educate customers on how to maximize the use of automated enabling technologies.
    - Materials that highlight the positive environmental impacts resulting from participation in a DR program.
    - Access to technology support and help-lines during DR events.
  - Potential SCTD participants may be targeted through e-mail or direct mail based on interval data analysis. This customer energy use profile assessment may also be supplemented by cross program marketing within targeted areas, and retailer engagement campaigns designed to support the possible highest level of awareness about the benefits of enabling technologies.
  - SDG&E will coordinate the required activities to install the appropriate technology and to educate the customer about its functionality and application during both event and non-event days. SDG&E may employ designated vendors that support these technologies as part of its deployment process and will put in place a high level support structure to address customer questions and issues related to the technology deployment before, during and following the equipment installation.
- **Program Objectives**
  - The enabling technologies provided to participants will be essential to automate load reduction minimizing the need for the customer to take actions to initiate load reduction strategies during a DR event. The targeted market segment typically doesn't have the resources to monitor energy use at a granular level and to encourage participation in DR programs, response to events needs to be "hands free."
  - The SCTD Program will provide a no cost technology solutions for qualified customers to use automated enabling technologies to achieve load reduction during DR events. The key program goals are to:
    - Optimize DR program participation and awareness
    - Achieve a predictable load reduction
    - Optimize the positive customer experience during a called demand response event
    - Maximize program participation and engagement
    - Leverage new and developing channels for cost effective enabling technologies to customers
    - Develop lessons learned and best practices
- **Program cycle:**
  - 2012-2014

**Implementation Plan (PIP)**  
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**Proposed Demand Response**  
**Program**

**Program Strategy**

- **Target Audience:**
  - Small Commercial
    - The SCTD Program goal is to recruit up to 3,000 SDG&E small commercial customers with demand less than 100 kW.
    - Additionally SDG&E's SCTD program will target customers that participate in the Small Commercial Direct Install program that SDG&E offers as part of our energy efficiency portfolio.
    - Enrolled customers must have an identified end use appliance or equipment that can be curtailed in order to participate in the program.
  - Residential:
    - Up to 15,000 participating SDG&E residential customers
    - Additionally SDG&E's SCTD program will target customers that participate in the Whole House program that SDG&E offers as part of our energy efficiency portfolio.
    - SDG&E will target the roughly 200 participants from our Borrego Springs Micro Grid Comprehensive Energy Efficiency Delivery Pilot. These customers have demonstrated a desire for energy management and will be ideal candidates for a more comprehensive IDSM solution.
- **Marketing, Education & Outreach**
  - The SCTD program coordinates with the Customer Education Awareness and Outreach (CEAO) effort to funnel customers to programs through 1) a broader effort to create understanding and awareness about the importance of demand response as a concept and 2) a segmented effort to generate interest in the wide range of programs that are offered by SDG&E. Through a broad-reaching marketing effort that includes mass media channels, CEAO is designed to create awareness of the SDG&E DR portfolio, and segmented efforts which include direct response, online campaigns and outreach at events, to generate program interest by promoting customized solutions for customers
  - The SCTD program marketing effort focuses on creating program specific material highlighting the benefits to relevant customers with expressed interest and a call to action and develops marketing materials and messages that make it easy for the customer to engage in the enrollment process.
  - Program specific activities:
    - Printed and online educational materials that educate customers how to maximize the use of automated enabling technologies.
    - Participants will receive informational materials that will educate participants about the available programs and incentives for Small Commercial customers.
    - Participants will receive informational material regarding DR participation through aggregators
    - Participants will receive messaging that explains the positive environmental impacts DR participation delivers.
- **Customer Research & Feedback**
  - The SCTD Program will utilize all pertinent process and program impact research data collected from Measurement Evaluation studies. Additional research may be employed to evaluate ongoing activities related to program implementation. These research tools may include:

**Implementation Plan (PIP)  
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Program**

- Participant Surveys
- Focus Groups
- Smart Meter Interval Data Analysis
- DR Event Participation Data
  
- **Program Delivery**
  - Program will employ targeted marketing efforts in conjunction with interval data analysis to identify customers that could potentially reduce their load during a called event
  - Provide technology features and capabilities allowing for maximum utilization of DR offerings
  - Retailers may also be key partners to the utility through in-store signage and collateral, educating customers about the benefits of enabling technologies, and best end-use applications for these technologies within the home. The utility will work with retailers to facilitate this educational process, and will work closely to identify potential synergies and opportunities that will support enabling
- **Aggregator considerations**
  - Aggregators will be considered for SCTD program participation and may receive funding to implement DR enabling technologies so long as the customer has not also received funding.
- **CAISO N/A**
- **Statewide Coordination N/A**
- **Integrated/coordinated DSM**
  - Each installed enabling technology may be supported by available online presentment tools designed to provide additional functionality in terms to managing energy use during DR event and non-event periods. As such, participating customers will not only be able to achieve load reduction through the use of their enabling technology during DR events, but will also have the ability manage their energy use during non DR event periods as well.
  - This program will maximize the utilization of Integrated Demand Side Management (IDSM) efforts to help participants identify energy efficiency and renewable opportunities through the promotion of:
    - Energy Efficiency Programs
    - Demand Response Programs
    - Partnerships Programs
  
- **EM&V**
  - Annually a load impact evaluation of the program will be conducted in accordance with the load impact protocols including a ten year forecast based on ex-post event results. The impact evaluation will be completed by April 1st each year and will be filed with the CPUC. Additionally, other analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three year cycle to be used to inform future program design and to evaluate and improve the operation of the program.

**Pilots**

- SDG&E will also recruit from a pool of residential customers that were part of the SDG&E 2009-2011 RACT Pilot to participate in the SCTD program.

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**Implementation Plan (PIP)  
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Program**

**Locational Demand Response Pilot  
(LDR)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Locational Demand Response Pilot (LDR)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Locational Demand Response Pilot	\$141,000	\$144,000	\$148,000	\$433,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Locational Demand Response Pilot	N/A	N/A	N/A

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012-2014 Cost Effectiveness
Locational Demand Response Pilot	N/A

**Program Descriptors**

- **Market Sector**
  - Non-Residential
  - Residential
- **Program Classification**
  - Pilot
- **Program Statement**
  - The pilot will determine the viability of Demand Response use for the purpose of addressing localized system overloads and constraints. SDG&E doesn't have multiple Local Capacity Areas as defined in the CAISO Resource Adequacy process but does incur costs for transmission and distribution projects to address overload issues on specific circuits or sub-stations. In an attempt to



**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

mitigate the overloads and constraints found on these circuits and sub-stations, SDG&E is proposing a Locational Demand Response Pilot to determine if there is sufficient Demand Response to provide a meaningful level relief on circuits or sub-stations with overloads and/or constraints. The Pilot will leverage existing programs such as Permanent Load Shifting, Energy Efficiency Direct Install Program, Summer Saver, and other programs to supply the load reductions. Targeted communications efforts will be used to increase the number of customers in the identified area participating in these programs.

- The pilot will determine the means by which a load reduction of at least 2 MW can be achieved. By utilizing an IDSM approach, SDG&E looks to acquire load reductions that are both reliable and sustainable and are targeted to specifically identified circuits that are at or nearing capacity. The pilot proposes to increase participation in the Permanent Load Shift program by offering participants on identified circuits or sub-stations a pilot participation payment.
- The objective of the Locational Demand Response Pilot is to study the following issues:
  - Are customers in identified/targeted areas willing to increase levels of participation
  - Can a more reliable and sustainable load drop be achieved in a targeted area?
  - Does a participation payment/incentive produce greater participation?
  - Can aggregators be utilized to garner targeted participation in this area?
  - Inform whether the methods employed during the pilot are appropriate for a broader deployment to achieve specific levels of additional load drop in areas of need.
- **Measures:** Pilot participation payment for qualified PLS enrollees
- **Non-incentive customer services:** N/A

**Program Rationale and Expected Outcomes**

- **Implementation Design**
  - An assessment of current DR on targeted circuits will be conducted to determine if the target level of MW impact can be achieved based on existing program enrollment
  - If it is determined that the existing program enrollment is insufficient to achieve the target level, a recruitment plan will be developed to increase program participation in the local area
  - Due to the myriad of technical and commercial issues associated with targeted dispatch (calling a DR event for a subset of customers enrolled in a DR program) the pilot will determine if the coincidental use of DR events is sufficient to achieve the targeted load drop and whether or not the use of DR coincides with periods of overload on the circuit.
  - The cost to achieve the level of required participation will be studied through a pilot participation payment to Permanent Load Shifting participants in the targeted area. Non-Residential Customers on PLS will be eligible for a \$750 per kW payment on a first come, first served basis to the extent that they can achieve a load shift for the duration of the PLS period of 11 AM to 6 PM. To the extent that only three (3) hours of load shift can be achieved during the 11 AM to 6 PM window, PLS customers will be eligible for a \$300 per kWh payment.
  - Results of pilot expected to inform whether increased DR participation by itself is sufficient to achieve needed levels of load reduction in areas with identified overloads.
  - Results will also determine whether or not increased recruitment for DR participation in the targeted area is sufficient to achieve needed levels of participation.
- **Program Cycle**
  - 2012-2014

**Implementation Plan (PIP)  
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Program**

**Program Strategy**

- **Target Audience**
  - All customers within the identified circuit or substation will be courted.
  - Direct Access customers are eligible.
- **Marketing, Education & Outreach**
  - The Locational Demand Response Pilot will leverage the Customer Education Awareness and Outreach (CEAO) effort to funnel customers to programs through 1) a broader effort to create understanding and awareness about the importance of demand response as a concept and 2) a segmented effort to generate interest in the wide range of programs that are offered by SDG&E.
  - The Pilot will then provide targeted and additional communications to customers in the targeted area focused on awareness building and education about the various load reduction tactics and DR programs that are available to them
  - Leverage Aggregator relationships to saturate outreach efforts in area(s) of identified need
- **Program Delivery**
  - Pilot will utilize the existing delivery channels through vendors, contractors and aggregators to induce additional recruitment and activity for DR participation in the identified area.
- **Customer Research & Feedback**
  - The level of participation during DR events across the various programs will be tracked by providing the required data elements to capture the activity in the targeted area
- **Aggregator considerations**
  - While there are no specific aggregator requirements for the pilot, the relationship with aggregators will be essential since they provide a set of “feet on the street” for utility programs and can supplement the recruitment effort in the targeted area.
- **CAISO relationship**
  - Results of the pilot will inform best methods of meeting and achieving local area reliability requirements if it is determined in the future that SDG&E requires local capacity area designations

**Program Theory and Other Attributes**

- **Program Design to overcome barriers**
  - Identification and tracking of customers in DR programs in targeted area
  - Recording, cross referencing and comparison of circuit loading in during pilot to correlate to DR event performance
  - Tracking of customers eligible for PLS incentive in settlement
- **Integrated/coordinated DSM**
  - The load reductions that the Locational Demand Response Pilot is attempting to achieve and study is agnostic as to how those load reductions are achieved and the marketing and outreach efforts will emphasize that participation through any DR program or Energy Efficiency effort will meet the program objectives.
- **Integrate across other demand response initiatives**
  - The Locational Demand Response Pilot does not provide any load reductions or event notifications within itself and is dependent on existing DR programs and other DR activities to meet its objectives

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**EM&V**

- Due to the nature of the pilot, standard evaluation and measurement is not applicable. Analysis will focus on whether or not the stated objectives are and can be achieved.

**Pilots** Proposed Program is a pilot

**Implementation Plan (PIP)  
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Proposed Demand Response  
Program**

**New Construction Pilot (NCDRP)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

New Construction Pilot (NCDRP)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
New Construction Pilot	\$554,000	\$283,000	\$287,000	\$1,124,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
New Construction Pilot	N/A	N/A	N/A

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012-2014 Cost Effectiveness
New Construction Pilot	N/A

**Program Descriptors:**

- **Market sector**
  - Residential and Non-Residential New Construction (Cross-cutting)
- **Program Classification**
  - SDG&E Pilot
- **Program Statement:**
  - The New Construction Demand Response Pilot Program (“NCDRP”) will be designed as an Enabling Technology Pilot Program. The pilot tests the New Construction market as a delivery channel for SDG&E Demand Response (“DR”) Technologies. This will be accomplished by working with builders, architects, and others in integrating DR technologies into the design process. The technologies that are installed will help achieve load reduction during critical peak energy usage periods as well as provide customers with real time information on dynamic pricing.
  - NCDRP will provide financial incentives as well as design assistance to facilitate participation in the pilot. This pilot will be administered and implemented by the same program and implementation staff as existing SDG&E New Construction Energy Efficiency Programs, namely California Advanced Homes (CAH) and Savings by Design (SBD).

**Implementation Plan (PIP)**  
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**Program**

- **Program Fundamentals:**
  - Incentives
    - SDG&E will cover 75 - 100% of incremental cost for the pilot for the installation of the DR enabling equipment
  - The measures for the pilot may include, but are not necessarily limited to:
    - Energy management systems (“EMS”);
    - Internet Gateways;
    - Room Air Conditioning Controllers;
    - Pool Pump Controllers;
    - Electrically heated Spa Controllers;
    - Automated Lighting Controls;
    - Programmable Communicating Thermostats (“PCT’s”);
    - Online curtailment management and monitoring tools;
    - Smart appliances;
    - In Home Displays (“IHD’s”);
    - Load control devices
      - Smart Strips
      - Smart Panels
      - Plug Load Controllers
    - Thermal Energy Storage
    - Electricity Storage (battery)
      - The utility load reduction signal and/or communication will allow the home to be responsive to dynamic pricing signals from SDG&E
- **Non-incentive customer services:**
  - Design Assistance
    - Working with design teams to integrate DR technologies early in the design process.
    - Ensure compatibility or handshake of devices interfacing with Smart Meters, HAN, IHD’s, etc.
    - Ensure that communicating devices are within their maximum communicating range of each other and Smart Meters. If not, ensure hardwired “repeaters” are installed and linking otherwise out of range devices.
  - Workforce Education and Training (“WE&T”):
    - Ensure contractors are aware and knowledgeable of DR enabling technologies. SDG&E will train contractors on the proper installation of DR enabled technologies and that the devices are properly connected to and communicating with Smart Meters.
    - SDG&E will take lead in the training of sales staffs / leasing agents for residential projects and occupants / facility staff for nonresidential projects. The result of this training will enable staffs to educate customers on the benefits of DR and energy management.
  - Marketing Support
    - SDG&E will partner with homebuilders participating in the pilot in developing marketing collateral that explains technologies in the home and a pathway to participate in SDG&E DR programs.

**Implementation Plan (PIP)**  
**2012-2014**  
**Proposed Demand Response**  
**Program**

**Program Rationale and Expected Outcomes**

- **Implementation Design**
  - Delivery mechanisms
    - SDG&E will work with current CAHP and SBD customers and leverage those relationships in identifying potential candidates for the pilot.
  - Delivery and coordination
    - NCDRP will complement the DR offerings in Customer Programs in two ways:
      - Installation of DR enabling technology.
      - Education and Outreach to prospective customers to increase number of customers that participate in DR programs. Also, both residential and nonresidential participants in the pilot will have Auto DR capability that will enable demand response in critical load demand times.
- **Program objectives**
  - Facilitate Integrated Demand Side Management
  - Determine the effectiveness of a New Construction DR technology enabling program.
  - Measure adoption rate of homes that have the DR enabling technology installed into DR programs.
  - Educate New Construction market factors in DR concepts and benefits.
  - Determine if the cost savings associated with early design influence are enough to offset New Construction participants who received the DR technologies but did not participate in a DR program.
  - Provide design assistance during the design phase of a project that obviates expensive retrofits at a later time.
  - Evaluate effectiveness of PLS enabling technologies, including bill analysis and operation of devices.
- **Program cycle**
  - 2012 -2014

**Program Strategy**

- **Target audience**
  - Residential Homebuilders / Developers
  - Nonresidential Owners/Developers
- **Marketing, Education & Outreach**
  - The New Construction pilot marketing effort focuses on creating program specific material highlighting the benefits to relevant customers with expressed interest and a call to action and develops marketing materials and messages that make it easy for the customer to engage in the enrollment process.
  - As part of the new construction kickoff SDG&E will lead a training session for construction staff on the installation of DR technologies selected for the project.

**Implementation Plan (PIP)**  
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**Program**

- New Construction will ensure that processing and associated support staffs are adequately trained to comply with pilot requirements.
- **Program Delivery**
  - The two delivery channels for this pilot are California Advanced Homes Program for the residential pilot participants and Savings by Design for the nonresidential pilot participants.
  - SDG&E will, for the first time, work with the builders and design teams during the design and construction phase to ensure DR enabling technologies are incorporated into the project.
- **Aggregator considerations**
  - SDG&E will manage this pilot to the extent possible that aggregators and potentially their proprietary Energy Management Systems are considered when installing enabling technologies into the commercial building.
  - An expected outcome of this pilot is to answer the question of what level of preparedness can SDG&E make a commercial building ready for Auto DR and still have aggregators able to install potentially proprietary energy management systems.
- **CAISO relationship** N/A
- **Integrated/coordinated DSM**
  - This pilot program will select homes that have or are participating in the California Advanced Homes or Savings by Design programs. This will be a prerequisite to participation in the DR pilot, ensuring the homes and businesses will be energy efficient.
  - Integrate across other demand response initiatives.
    - As a DR enabling program the New Construction DR Pilot Program will feed projects into existing new residential and nonresidential DR programs.

**EM&V**

- Annually a load impact evaluation of the program will be conducted in accordance with the load impact protocols including a ten year forecast based on ex-post event results. The impact evaluation will be completed by April 1st each year and will be filed with the CPUC. Additionally, other analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three year cycle to be used to inform future program design and to evaluate and improve the operation of the program.

**Pilots** The program is a DR pilot.



**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Customer Education, Awareness and  
Outreach Core (CEAO)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name and Program ID**

Customer Education, Awareness and Outreach (CEAO)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
CEAO	\$1,692,000	\$378,000	\$357,000	\$2,427,000

**Projected Load Impacts by Year**

N/A

**Projected Cost Effectiveness for 2012-2014**

N/A

**Program Descriptors**

- **Market sector**
  - Residential, Non-Residential
- **Program Classification**
  - Core
- **Program Statement**
  - Customer Education, Awareness and Outreach (CEAO) provides a comprehensive marketing effort that entails a variety of initiatives aimed at increasing customer knowledge, understanding of demand response and inciting behavior change/action.
  - The various general awareness and education initiatives are intended to increase overall awareness and understanding of demand response by communicating the following:
    - General demand response concepts
    - Benefits that demand response delivers to customers
    - The importance of demand response in a customer's energy portfolio
  - CEAO will extend across residential, small/medium commercial, large commercial and industrial customer segments. It will achieve the specific awareness and interest goals through the following efforts:
    - Research on customer attitudes and perceptions
    - Education and awareness umbrella campaign
    - Targeted business and residential outreach
    - Interactive media

**Program Rationale and Expected Outcomes**

- **Program Implementation and Design**
  - **Delivery mechanisms**
    - The main objective of CEAO is to lead the effort to funnel customers from an understanding of our broad portfolio of programs to interest in specific demand response programs. This

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

will be done by first creating awareness of the range of services and then subsequently segmenting the effort to drive interest in specific programs.

- **Delivery & coordination**

- **Program Objectives**

- The main objective of the campaign is to
  - Increase awareness of the range of utility demand response programs; and
  - Drive interest in the individual programs that benefit each particular customer.

- **Program Cycle**

- 2012-2014

**Program Strategy**

- **Target Audience**

- CEAO will extend across residential, small/medium commercial, large commercial and industrial customer segments.
  - Residential and Small/Medium Commercial
    - Expectations around participation from Residential and Small/Medium customers are dramatically increased from past years based on a much larger portfolio of programs for this audience.
    - Communications to the residential segment must tie closely together with the education efforts of the dynamic pricing programs.
  - Large Commercial/Industrial
    - Will be provided communication and marketing information primarily through their assigned account representative.
    - Already familiar with the objectives of demand reduction and many of the available programs.
    - Will benefit the most from new efforts including the research studies and the interactive media.

- **Marketing Education & Outreach**

- CEAO aims to achieve drive awareness and generate interest with specific target audiences through the following efforts:
  - Research on customer attitudes and perceptions
  - Education and awareness umbrella campaign
  - Targeted business and residential outreach
  - Interactive media

- **Program Delivery**

- Program objectives will be accomplished through the use of the following:
  - Mass media channels, e.g. print and broadcast advertising
  - Targeted communications, e.g. direct mail, and e-mail,
  - Account Executive contact and educational resources, e.g. online tools, audits, seminars, workshops and community outreach events.
- Audience segmentation will be used to determine appropriate messaging and individualized tactics.

- **Customer Research & Feedback**

- In order to understand the effectiveness of our marketing messages, a concerted research effort will follow customer attitudes from pre-enrollment through post-event follow up.

**Implementation Plan (PIP)  
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Program**

Awareness, Trial and Usage (ATU) studies can directly inform the demand response programs about modifications that should be made to marketing messages in order to:

- Increase enrollment; and
- Increase participation in individual events.

- **Education and Awareness Umbrella Campaign**

- The Education and Awareness Umbrella Campaign aims to educate customers on the concept and benefits of demand response. This campaign is specific to demand response and a majority of the funding for DR specific communications under CEAO is reserved for this effort.

- **Targeted Business and Residential Outreach**

- The Business Outreach Program will:
  - Provide direct interaction and communications to local business communities within specific municipalities of SDG&E's service territory
  - Broaden awareness of demand response
- The Residential Outreach Program will:
  - Leverage local community, civic events, ethnic fairs and community networks to optimize the number of residential customers who hear and understand the benefits of demand response
  - Help customers take action when necessary.
  - Provide community organizations and individuals the opportunity to work with us to help their audience understand the benefits to their local community.

- **Interactive Media**

- Increasingly, our customers are driven online to educate and inform themselves at their own pace. The web is a central repository for an excess of information that a customer must sift through to find what they need. In addition, customers are forcing a shift from static rote information to interactive and individualized presentation. Within sdge.com, a concerted effort is needed to make information interactive, accessible and easy to understand.
- Currently, online tools exist to assist customers in understanding their energy usage and pricing signals, allow for online enrollment, and respond to alerts. However, these are currently set up assuming that a customer is already aware of and interested in the information. CEAO can assist in driving customers to these tools via multimedia tutorials, videos and other interactive elements to help them understand how critical the tools are to their individual success.

- **Aggregator Considerations** N/A

- **CAISO** N/A

- **Statewide Coordination**

- Coordination with the Statewide Marketing Education and Outreach team is critical in order to ensure that messages are consistent and that each leverages the other to the maximum extent. The Customer Programs Marketing and Outreach team, which oversees the CEAO program are also the representatives to the SWME&O team which helps to maintain consistency and integration between the efforts as much as possible.

- **Integrated/coordinated DSM**

- Pursuant to Commission guidance on IDSM, it should be noted that the budget for 2012 reflects communications plans for demand response in two capacities:

**Implementation Plan (PIP)**  
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**Proposed Demand Response**  
**Program**

- Integrated with communications about energy efficiency (to be combined with funding approved in the 2010 - 2012 Energy Efficiency decision); and
- Communications that focus solely on demand response and their benefit to customers.
- In any comprehensive plan, both integrated and DR specific types of communication are called for. In 2013 and 2014, the budget reflects only the latter: communications that focus solely on demand response. An integrated marketing budget for comprehensive messaging will be filed as part of the next energy efficiency portfolio in 2013.

**EM&V** N/A

**Pilots** N/A

**Implementation Plan (PIP)  
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Program**

**Demand Response Education and  
Emergency Alerts (DR Alerts)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Demand Response Education and Emergency Alerts (DR Alerts)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
DR Alerts	\$210,000*	0	0	\$210,000

*\*Program dollars for 2013 – 2014 will be requested as part of the IDSM funding in the 2013-2015 EE Program cycle.*

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
DR Alerts	N/A	N/A	N/A

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012-2014 Cost Effectiveness
DR Alerts	N/A

**Program Descriptors**

- **Market sector**
  - Residential, Non-Residential
- **Program Classification**
  - Core
- **Program Statement**
  - As part of the California Energy Efficiency Strategic Plan, a working group is exploring different alternatives for statewide branding for demand response awareness. Extensive research showed an inordinate amount of confusion surrounding Flex Alerts, Flex Your Power (FYP), Flex Your Power Now!, etc. Therefore, the recommendation of the team is to modify the education component of Flex Alert Network (FAN) so that it integrates within the messaging framework of Engage360.
  - Based on the CPUC ALJ Guidance Ruling for 2012 - 2014 DRP Application, we are requesting bridge funding in 2012, and will address the need for continued funding for demand response alerts, education and outreach under the next energy efficiency (2013-2015) application within the IDSM section.

**Implementation Plan (PIP)  
2012-2014  
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Program**

**Program Rationale and Expected Outcomes**

• **Implementation Design**

- In early 2011, FAN will be rebranded as a more generic “emergency alert” message and a new general awareness component of FYP will be integrated into the statewide EE brand, Engage360.
- The general awareness component, under Engage360, will educate customers on the importance of their actions, specifically around reducing electricity during peak hours. This will be differentiated from local Customer Education, Awareness and Outreach where increased education is needed to drive awareness and interest in specific local utility programs. SDG&E’s marketing efforts will ensure consistency and integration between our local education and the statewide effort in all cases.
- In order to effectively integrate this program into Engage360, we are only requesting bridge funding for 2012 to maintain the current program.

• **Delivery mechanisms**

- The DR emergency alerts will continue to notify California businesses, governments and residents when California’s energy resources are reaching peak levels to prevent Stage 1 Electrical Emergencies as called by CAISO. When an emergency event is called, Californians will be requested to follow specific conservation and load-shifting measures to reduce their electricity use. Awareness around what those specific recommendations are will be generated from the DR messaging that is integrated into the Engage360 campaign.

• **Incentives**

- N/A. DR Alerts is a general educational and informational program and does not provide incentives

• **Delivery and coordination**

- DR Alerts is a statewide program that will be delivered and coordinated through the State.

**Program Strategy**

• **Target Audience**

- DR Alerts will extend across residential, small/medium commercial, large commercial and industrial customer segments. The statewide implementer of the Engage360 brand (DraftFCB) will undertake a detailed analysis of appropriate target audiences as part of their strategic plan for the general awareness campaign.

• **Marketing Education & Outreach**

- The general awareness campaign component will promote behavior change by reinforcing four specific messages within the context of the Engage360 brand:
  - Turn up A/C to 78 degrees or higher;
  - Use major appliances after 7pm;
  - Don’t use unnecessary appliances; and
  - Tell others

• **CAISO relationship**

- Program is designed to work in conjunction with the CAISO Alerts, Warning and Emergency (AWE) messaging to prevent Stage 1 electrical emergencies.

• **Statewide coordination**



**Implementation Plan (PIP)**  
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**Program**

- DR Alerts is a statewide program that will be delivered and coordinated through the State under a contract that is administered by SCE. SDG&E works closely with SCE and PG&E to assure that the messaging delivery of the DR Alerts messaging is inclusive of SDG&E's specific needs.
- **Program design to overcome barriers**
  - The Marketing, Education and Outreach component of the California Energy Efficiency Strategic Plan describes a vision where “Californians will be engaged as partners in the state’s energy efficiency, demand-side management and clean energy efforts by becoming fully informed of the importance of energy efficiency and their opportunities to act.”
  - A critical component of statewide demand response education happens when the customer is presented with information about demand response and its importance both on a statewide and at a local level. It is difficult to present a picture of Demand Response on its own, it is important to frame it within the overall context of saving or reducing energy use. Presentation of an integrated message within the Engage360 brand is key to driving customer understanding and action.

**EM&V**

- The program will be evaluated in the same manner as Engage360.

**Pilots** N/A

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Permanent Load Shifting (PLS)  
Program Implementation  
Plan (PIP)**

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

**Program Name**

Permanent Load Shifting (PLS)

**Projected Program Budget**

Program Name	2012 Budget	2013 Budget	2014 Budget	Total 2012-2014 Budget
Permanent Load Shift	\$775,000	\$1,188,000	\$1,106,000	\$3,069,000

**Projected Load Impacts by Year**

Program Name	2012 Load Impact	2013 Load Impact	2014 Load Impact
Permanent Load Shift	2 MW	4 MW	5 MW

Note: Load Shift is Cumulative Across the 3 Years

**Projected Cost Effectiveness for 2012-2014**

Program Name	2012-2014 Cost Effectiveness
Permanent Load Shift	0.42

**Program Descriptors**

- **Market Sector**
  - Non-Residential
- **Program Classification**
  - Core
- **Program Statement**
  - The SDG&E Permanent Load Shifting (PLS) program provides eligible customers an incentive to purchase and install qualified PLS technology for the purpose of shifting peak load to off peak hours on a regular basis. Unlike other demand response programs, PLS operates continuously, not just at peak times and during events, and it can reduce summer peak demand as much or more than typical demand response programs. Permanent load shifting often involves storing thermal energy or electricity produced during off-peak hours and then using the stored energy to support load during peak periods.

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Program**

- Permanent Load Shifting (PLS) as originally adopted by D.06-11-049, refers to shifting energy usage from one time period to another on a recurring basis. Previous Commission decisions approved utility Requests for Proposals (RFP's) to solicit multi-year commitments with third parties for permanent load shifting projects to reduce peak demand resulting in various statewide PLS pilot programs. The Commission ordered further study and an evaluation of the utility PLS pilot programs and related issues in Decision 09-08-027. Strategies to increase the availability and to influence current program design were considered and implemented based upon the study results issued December 1, 2010. Further direction will be provided through the pending CPUC PLS Guidance Document and other interested parties. Based on the pending direction and information, the 2012-2014 PLS program is subject to change.
- **Program Fundamentals**
  - A non-recurring incentive for up to \$500 per kW for the installation of technologies such as thermal energy storage (TES) and deep cycle batteries to achieve a permanent load shift for the entire on-peak period (currently defined as 11 a.m. – 6 p.m.).
  - Incentive payments are based on ratepayer neutral levels of \$800 per kW to \$1,600 per kW and TOU rate differentials as identified and recommended in the Statewide Joint IOU Study of Peak Load Shifting.
  - Incentive not to exceed 50% of project cost and assumes a 3-5 year payback.
  - While there is no restriction on when the customer starts the load shift or when they charge the storage device the customer's load shift would be verified through historic usage data and validated during the commissioning inspection.

**Program Rationale & Expected Outcomes**

- The overarching goal of PLS is routine shifting of load from one time period to another during the day to reduce system-wide peak loads during periods when energy use is typically high and improve grid operations in the process. Permanent load shifting from peak hours to off peak hours provides operational and resource planning benefits for SDG&E with an anticipated energy cost savings to the customer. The location of the PLS technology should be behind the customer meter, expanding eligibility to all commercial customers.
- It is difficult to create a simple, technology neutral PLS program design that addresses all of the different technologies and cost effective incentive levels. This challenge was recognized in the PLS study and recommendations were made to create two technology categories: 1) mature and 2) emerging. A mature technology category includes larger thermal storage systems and process shifting applications with the medium and large customer. An emerging technology category includes the small customer for thermal energy storage and electrical battery storage. The 2012-2014 PLS program is based on the recommendations provided in the Statewide Joint IOU Study of Peak Load Shifting issued on November 30, 2010. This study identified a range of \$500 per kW to \$2,500 per kW in avoided cost benefits for PLS technologies depending upon the number of hours and which hours the load was shifted in order to reshape the load curve.
- **Implementation Design**
  - **Delivery Mechanism**
    - The Permanent Load Shifting program is primarily promoted through SDG&E Account Executives and contractors, who perform outreach and education. It is also communicated through SDG&E held workshops and business associations.

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**Program**

- The customer has the option of choosing their own vendor or having SDG&E work with the customer to identify opportunities through a verification report produced by the customer or sub-contracted vendor. Upon SDG&E measurement and verification of potential load shift and commissioning, a one- time incentive payment will be provided to the customer.
- **Program Objectives**
  - The key objective of the PLS program is to shift energy usage during the full duration of the on-peak time period to semi-peak and off-peak time periods on a permanent basis May through October. Due to the year round nature of the technology additional benefits may be realized.
- **Program Cycle**
  - 2012-2014

**Program Strategy**

- **Target Audience**
  - All commercial customers within the SDG&E service territory with the potential of shifting electric load for the full duration of on-peak hours to off-peak and semi-peak hours on a regular, recurring basis.
  - Customers engaged in new construction and retrofit projects.
  - Direct Access customers are eligible to participate in the program.
- **Marketing, Education & Outreach**
  - The PLS program coordinates with the Customer Education Awareness and Outreach (CEAO) effort to funnel customers to programs through 1) a broader effort to create understanding and awareness about the importance of demand response as a concept and 2) a segmented effort to generate interest in the wide range of programs that are offered by SDG&E. Through a broad-reaching marketing effort that includes mass media channels, CEAO is designed to create awareness of the SDG&E DR portfolio, and segmented efforts which include direct response, online campaigns and outreach at events, to generate program interest by promoting customized solutions for customers
  - The PLS program marketing effort focuses on creating program specific material highlighting the benefits to relevant customers with expressed interest and a call to action and develops marketing materials and messages that make it easy for the customer to engage in the enrollment process.
  - To educate customers on the advantages of PLS, a bill analysis tool is available for all customers to determine the financial impact of shifting their energy load. This tool will also be used to identify and target customers who will benefit from PLS technologies. Marketing and outreach efforts will be directed at these customers for potential participation.
- **Program Delivery**
  - Permanent Load Shifting (PLS) is similar to demand response programs in that it shifts load during summer peak hours, however the load shift occurs without triggers and is not linked to specific events.
- **CAISO relationship**
  - Permanent Load Shifting can assist with system reliability and supports the changing needs of the electric grid by providing off-peak demand that aligns with intermittent resource generation.

**Implementation Plan (PIP)  
2012-2014  
Proposed Demand Response  
Program**

- **Statewide coordination**
  - Participated in Statewide Study as ordered by the Commission in D.09-08-027 and the program is utilizing study recommendations that were developed by analyzing statewide pilot results.
  - SDG&E regularly meets with SCE and PG&E to ensure that the technology and process approaches to program design are consistent.
- **Integrated DSM**
  - PLS customers may participate in Demand Response programs as long as the kW load reduction in response to other programs is incremental to the shift in load achieved through the PLS program.
  - The identification of energy efficiency opportunities and the installation of recommended measures will be developed within the PLS program where applicable and cost effective. At a minimum, a strategy will be defined for customers to act on energy efficiency opportunities prior to the installation and commissioning of PLS equipment.
- **Integration across other demand response initiatives**
  - Customers will also be provided the opportunity to use the SDG&E Technical Audit program to identify and create a PLS verification report, inclusive of additional energy efficiency and demand response opportunities, rebates and incentives.

**EM&V**

- Annually a load impact evaluation of the program will be conducted in accordance with the load impact protocols including a ten year forecast based on ex-post event results. The impact evaluation will be completed by April 1st each year and will be filed with the CPUC. Additionally, other analysis related to program design (such as a baseline analysis) will be conducted as needed. One process/market evaluation for the program is planned during the three year cycle to be used to inform future program design and to evaluate and improve the operation of the program.

**Pilots**

- Program design is informed by the experience and activities of the PLS pilots authorized in D.06-11-049.