Third Party (3P) & Local

Programs

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2013-2014 PIP Addendum

Program Name	Comprehensive Mobile Home Program	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
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9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** Comprehensive Manufactured and Mobile Home
Program ID Number:
SDG&E Program Type: Third-Party Program

2) **Projected Program Budget Table**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3279	3P-Res-Comprehensive Manufactured-Mobile Home	$95,111	$59,154	$1,775,431	$2,484,299	$4,413,995

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3279	3P-Res-Comprehensive Manufactured-Mobile Home	3,181	2,914,375	205,840

4) **Program Description**

a) **Describe Program**

The residential Comprehensive Manufactured and Mobile Home Program is designed to complement SDG&E's Residential Energy Efficiency Portfolio by reaching manufactured and mobile home customers. This is a targeted market that is not reached by statewide mass-market programs, yet which shows rich potential for cost-effective energy and demand savings. This Program has been offered as a third-party program since 2002 and has been one of the most reliable and dependable programs in delivering energy savings, with a high customer satisfaction rating.

Manufactured homes are defined as factory built, pre-fabricated housing, mobile homes, homes within mobile home type communities. This sector does not include traditional homes built entirely at the construction site.

b) **List Measures**

This Program provides the following energy efficiency measures:

Measure	Incentive (per Unit)	2013-2014 Incentive (per
AC Diagnostic & Tune-up[2]		$194.28
Duct Test & Seal		$377.97
Water Heater Pipe Wrap		$34.56
ENERGY STAR® Exterior Hardwired Fluorescent Fixtures		$53.45

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.
[2] Savings from Climate Zone 7, 10 and 14 averaged together from E3 Calculator Savings for AC Diagnostic and Duct Test & Seal

Measure	Incentive (per Unit)	2013-2014 Incentive (per
ENERGY STAR® Interior Hardwired Fluorescent Fixtures		$59.84
Interior ENERGY STAR® Screw-In CFL 14W		$9.34
Interior ENERGY STAR® Screw-In CFL 23W		$11.80
Exterior ENERGY STAR ® Screw-In CFL 14W		$9.34
Exterior ENERGY STAR ® Screw-In CFL 23W		$11.80
Low-Flow Faucet Aerator		$10.35
Low Flow Showerhead or Shower Start		$43.15
Common Area Occupancy Sensor		$85.32
Common Area ENERGY STAR® Exterior Hardwired		$51.83
Common Area ENERGY STAR® Interior Hardwired Fluorescent		$59.84
Common Area Interior ENERGY STAR® Screw-In CFL 14W		$9.34
Common Area Interior ENERGY STAR® Screw-In CFL 23W		$11.80
Common Area Exterior ENERGY STAR® Screw-In CFL 14W		$10.28
Common Area Exterior ENERGY STAR® Screw-In CFL 23W		$11.80
Common Area T-8 or T-5 Lamp and Electronic, 2-lamp, 4-foot		$46.44
Common Area T-8 or T-5 Lamp and Electronic, 4-lamp, 4-foot		$63.72
Vending Machine Controller for Cold Drink Machine		$319.68
Vending Machine Controllers		$161.31
LED Exit Sign		$55.08
Thermostatic Show Start Insert		$24.00
Brushless Retrofit Furnace Motor		$429.84
Smart Strips—Plug Load		$48.60
Electric Only-Duct Test and Seal		$377.97

c) **List Non-incentive Customer Services**

The Contractor or Contractor's certified technicians will complete a walkthrough of the home with the customer, and provide an energy efficiency brochure with energy savings tips and information on other Company and California Public Utility Commission energy efficiency programs.

5) P**rogram Rationale and Expected Outcome**

a) **Quantitative Baseline and Market Transformation Information:**

This section is not applicable to this program.

b) **Market Transformation Information:**

This section is not applicable to this program.

c) **Program Design to Overcome Barriers:**

There are many factors leading to market failures and barriers for the mobile home market such as cost effectiveness, split incentives, park management directives, income, and language. In addition, there are a limited number of contractors serving this market

segment in part because of the limited degree to which residents take advantage of programs due to age, language, economic, or educational barriers. Furthermore, many of the tenants are senior citizens, on a fixed-income and many times not physically able to install measures themselves.

The Program has been designed to provide a comprehensive energy program to manufactured and mobile home customers in the Company service territory, collaborating with local communities within this service area to maximize service to citizens of their cities and towns.

Barrier	Solution
Education: Lack of consumer information about energy efficiency benefits.	The Contractor will educate the home occupant about the energy efficiency opportunities available to them in this program as well as other programs offered by SDG&E to ensure more comprehensive projects.
Language: Primary language spoken is other than English.	The Contractor's outreach associates and technicians are multi-lingual, speaking English, Spanish, Hungarian, Tongan, Russian, Samoan, Navajo, Italian, Portuguese, French, German, and Czech.
Income: Income levels less than 400% of federal poverty guidelines	This Program is directed at manufactured and mobile homes, which are often occupied by lower income customers.
Housing Type: Multi-family and mobile home tenants	This Program is specifically geared towards manufactured and mobile homes in order to reach a sector of the population often overlooked by traditional energy efficiency programs.
Homeownership: Tenants (renters)	Homeowners are may sign Contractor Access Agreement to provide service to eligible tenant-occupied properties.

d) **Quantitative Program Targets:**

Table 5

Comprehensive Manufactured and Mobile Home Program	Program Target by 2013	Program Target by 2014	Total Program Target
Duct Test and Seal			
AC Diagnostic and Tune-up			
Low-Flow Faucet Aerator			
Low Flow Showerhead			
Energy Efficient Shower Start			
Water Heater Pipe Wrap			
Interior ENERGY STAR® CFL 14 watts			
Interior ENERGY STAR® CFL 23 watts			
Interior ENERGY STAR® Hardwire Fixture (30-36 watts)			
Common Area Occupancy Sensor Wall Mounted			
Exterior ENERGY STAR® CFL 14 Watts			
Exterior ENERGY STAR® CFL 23 Watts			
Exterior ENERGY STAR® Hardwire Fixture 18 Watts			
Common Area Interior ENERGY STAR® CFL 14 watts			
Common Area Interior ENERGY STAR® CFL 23 watts			
Interior ENERGY STAR® CFL Fixture Common (30-36 Watts)			
Common Area Exterior ENERGY STAR® CFL 14 Watts			
Common Area Exterior ENERGY STAR® CFL 23 Watts			
Common Area Exterior ENERGY STAR® CFL Fixture 18 watts			
Common Area T-8 or T-5 Lamp and Electronic, 2-lamp, 4-foot fixture			
Common Area T-8 or T-5 Lamp and Electronic, 4-lamp, 4-foot fixture			
Common Area Vending Machine Control Cold Drink Machine			
Common Area Vending Machine Control Uncooled Snack Machine			
LED Exit Sign			

Note: Values provided represent yearly targets. Yearly targets are subject to revision based on final adoptive budget.

e) **Advancing Strategic Plan Goals and Objectives:**

The Comprehensive Manufactured and Mobile Home Program supports the California Long Term Energy Efficiency Strategic Plan by:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
Targeting and developing deeper knowledge of the mobile home hard to reach segment, program supports statewide segmentation research efforts.	Low-Income	By 2020, all eligible customers will be given the opportunity to participate in the LIEE program.	1.1: Strengthen LIEE outreach using segmentation analysis and social marketing tools.
Targeting the underserved mobile and manufactured home segment, the program is able to provide services to a larger number of low and middle-income residential customers.	Low-Income	By 2020, all eligible customers will be given the opportunity to participate in the LIEE program.	1.3: Improve program delivery

6) **Program Implementation**

a) **Statewide IOU Coordination:**

i. Program name
ii. Program delivery mechanisms
iii. Incentive levels
iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
vi. Similar IOU and POU programs

This third-party Program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

While this Program is directed at the SDG&E service territory, related manufactured-mobile home retrofit programs are also operating in the Southern California Edison, Southern California Gas, and Pacific Gas & Electric service territories. Additionally, the Program is designed to complement other investor-owned utility Programs available to manufactured and mobile home owners, property owners and managers. The program design is expected to maximize energy efficiency opportunities by promoting electricity

savings, as well as therm and water savings. This Program will provide new and measurable direct savings via the installation of energy efficient measures.

b) **Program Delivery and Coordination:**

i. **Emerging Technologies Program**

The Contractor and some of its Representatives will collaborate with the CPUC Energy Division and utility staff to provide updated input on energy savings data, including emerging technologies, into Database for Energy Efficiency Resources. If new measures and/or energy savings data can be identified, they would be submitted for consideration to the program manager, in the form of work papers that would support the rationale for the new measure.

ii. **Codes and Standards Program**

Not applicable to this program.

iii. **WE&T efforts**

The Comprehensive Manufactured and Mobile Home Program supports the California Workforce Education & Training Plan by: (1) Providing installation of measures by certified technicians that focus on energy efficiency and demand side management (DSM); (2) Offering necessary training and certification for technicians to develop new skills and knowledge; and (3) Contractor provides educational material and training directly to customers or residents so that ongoing energy savings are realized.

Additionally, Contractor is able to provide training (via a Company established Web cast or in person at a Company facility) on their Program to Company's customer field representatives at the event.

iv. **Local marketing and outreach efforts (provide budget)**

This Program will deploy a creative marketing and screening process (face-to-face visits with park owners and managers combined with direct mail and telephone campaigns) to reach residents of manufactured and mobile home park sites and common areas. The marketing strategy will focus on complementing the overall Company residential program portfolio. Contractor or Contractor's Representatives will conduct specific marketing activities that seek to educate the customers, as well as the park owners and managers, on the variety of energy efficiency programs available to them as utility customers and why this Program is specifically targeted to serve their market segment. Other marketing activities will include working with local community organizations, direct mail pieces, and advertisement in magazines.

To achieve higher level of awareness on the benefits of energy efficiency, the Contractor will develop partnership arrangements between utilities and local governments. This Program is designed to work smoothly with a number of

community organizations and associations, including mayors and city councils in combining efforts to promote energy efficiency within numerous communities.

v. **Non-energy activities of program**

The Comprehensive Manufactured and Mobile Home Program, in addition to the energy savings activities, also provides an enormous and collective boost to a segment of the population that is ill-equipped, because of age, income, language or the complexity of installing these measures, to take necessary actions to install such measures at their homes. In the absence of this Program, this segment of the population and associated energy savings could be overlooked.

vi. **Non-IOU Programs**

The program helps support the *Western Climate Initiative* with the utilization of advanced energy efficient technologies and reduces the carbon footprint created by single family and multi-family residences in California. In addition, this Program meets important objectives by reducing greenhouse gas emissions, especially CO_2, NO_x, and PM-10 emissions.

vii. **CEC work on PIER**

The Program utilizes Title 24 compliant energy efficient measures, including gas and water saving measures. As part of its implementation, an attempt is made to encourage the installation of high performance energy saving goods and services in conjunction with educating the customers (users) on how to optimize the measures for maximum comfort and energy savings. To meet this objective, this program is designed to work smoothly with a number of community organizations and associations, including mayors and city councils in combining efforts to promote energy efficiency within numerous communities.

viii. **CEC work on codes and standards**

Codes and standards are satisfied in various ways in this Program. The performed services and installed goods are high quality and documented energy efficiency measures. The services and installations are conducted by certified and trained technicians. The Contractor's technicians are trained to maintain a high standard of quality installations. Additionally, the Contractor will complete an evaluation and assessment of the residence using an employed "Comfort Energy Consultant." The quality installations may also be remotely verified via "SMART" systems maintained by SDG&E.

Contractor is expected to follow various codes and standards and be an approved and certified ENERGY STAR® Partner. The materials Contractor utilizes are ENERGY STAR® rated. Low-Flow Shower Heads and Aerators are both ENERGY STAR® rated materials. Contractor uses a supply chain and supply chain verification process to assure these suppliers do not receive any upstream lighting or energy efficiency incentives, which eliminates the potential for double-dipping. Contractor has a current HVAC contractor's license and technicians follow generally accepted industry standards and procedures as it completes the

work at each unit. The following are the specification standards for the Verified Duct Test & Seal.

Duct Test & Seal	
Estimate Total System Airflow	Default Method-Systems with A/C 340 cfm per ton of cooling capacity or with systems with heat only 18.5 cfm/Ftuh output
Perform Duct Pressurization Leakage Testing	Tape off all registers and connect duct blaster
Estimate Total System Duct Leakage	Airflow X .15% = Target Example 4 ton unit 340 X 4 = 1360 X .15 = 204(target)
Secondary Target	When ducts are inaccessible or there is a large amount of duct leakage, a secondary target is required by reaching 60 cfm X tonnage = reduction Example Duct Leakage 800cfm on a 4 ton system you would need to get 60X4=240cfm (240 cfm reduction to get 2nd target)

A/C Tune Up	
Superheat Method	For the Superheat method, the target superheat is calculated with the wet return temperature (gotten through the return temperature) and the outside temperature. The difference between the target superheat and the actual superheat is called the charge difference, which has to be between -5 and +5. When this difference is greater than +5, means that the system is undercharged and refrigerant needs to be added. By the other hand, when this difference is lower than -5, means that the system is overcharged and it is necessary to take refrigerant out.
Subcooling Method	For the Subcooling method, the target subcooling is provided by the AC manufacturer. The difference between the target subcooling and the actual subcooling is also called the charge difference, which has to be between -3 and +3. When this difference is greater than +3, means that the system is overcharged and it is necessary to take refrigerant out. By the other hand, when the difference is lower than -3, means that the system is undercharged and it is necessary to add refrigerant.

Water Measures		
Aerators	Niagara	1.80 GPM
Low Flow Showerhead	Niagara	1.80 GPM Massage Spray
Dwelling Unit Lighting Installations		
14-23 watt ENERGY STAR® Labeled CFL (Exterior)	TCP or Conservation Services	ENERGY STAR® UB20 - 2700K or equivalent
14-23 watt ENERGY STAR® Labeled CFL (Interior)	TCP or Conservation Services	ENERGY STAR® UB20 - 2700K or equivalent
13-18 watt ENERGY STAR® Labeled Fluorescent Fixture (Exterior)	TCP or Conservation Services	ENERGY STAR® 5631BCP-2700K or equivalent
14-18 watt ENERGY STAR® Labeled Fluorescent Fixture (Exterior)	TCP or Conservation Services	ENERGY STAR® 55818BPC-2700K or equivalent
30-36 watt ENERGY STAR® Labeled Fluorescent Fixture (Interior)	MaxLite or Conservation Services	Ceiling Fix-SKF30SMCW or equivalent
Common Area Lighting Installations		
14-23 watt ENERGY STAR® Labeled CFL (Exterior)	TCP or Conservation Services	ENERGY STAR® UB20 - 2700K or equivalent

ix. **Non-utility market initiatives**

This section is not applicable to this program.

c) **Best Practices:**

The Program utilizes an innovative and comprehensive marketing and implementation program designed to maximize the participation of mobile home occupants and to optimize energy efficiency at each property.

The Program has now worked continuously statewide for over ten years. There are strong processing and procedural economies of scale that will continue to contribute to more efficient servicing of mobile home customers, while avoiding duplication and confusion in the market place. Mobile home park communities are well aware of the availability of this Program within Company service territory. Additionally, the Contractor is expected to actively work with a member of mobile home associations and be involved in their conferences and seminars.

The 2013 - 2014 Program adopts valuable lessons from prior mobile home programs for maximum effectiveness in the marketplace. This Program has significant innovative features, including:

- The introduction of 100% quality at every installation site using technology and full-time quality supervisors to maximize customer satisfaction and production quality.
- The unique marketing approach to optimize market saturation in working with park owners, managers and residents.
- A direct install feature that removes the barriers for installation of highly effective energy efficiency measures.
- Regular in-house inspections of work completed and also regular inspections with the Company inspectors to review the work completed.
- Regular quality assurance surveys by an independent firm, with immediate contractor follow-up and resolution to achieve 100% customer satisfaction.

The unique marketing approach and proven outreach experience combined with a direct install approach of energy efficiency measures to the hard-to-reach market provides valuable therm savings, as well as kW, kWh and water savings. The Program effectiveness is enhanced by eliminating the financial barriers in the market by providing energy efficiency upgrades at no cost to the customers. Park owners and/or property managers are able to participate in energy efficiency opportunities along with the residents and all parties are educated on the energy savings achieved through this program and will be offered information regarding the importance of energy savings and no- and low-cost measures that customers can implement independently in addition to other programs offered by SDG&E.

d) **Innovation:**

One of the most innovative building blocks in the Comprehensive Manufactured and Mobile Home Program is the construction of a master database organized by mobile home park which will include each unit in the park. The database will be loaded with the SDG&E customer database information (under a non-disclosure agreement) and a history

of work that has been completed at this site. Then, once marketing is conducted and a customer schedules an appointment, the scheduler simply checks the box and time for the technician to do the work. When the work is completed, the technician will confirm that all work completed is captured in the database and check a box, indicating the work is ready for billing. This process generally eliminates data entry and the possibility for data entry errors to customer information and eliminates installation of duplicate measures or services at the customer site. It also allows the database to sync up 100% with the SDG&E database during the invoice process.

e) **Integrated/coordinated Demand Side Management:**

This Program offers an innovative outreach and consumer education regarding the installed measure as well as additional energy efficiency programs available including demand response and demand-side management options. This Program includes a basic assessment and recommendations which include many relevant energy management opportunities which the customer may take advantage of including advice on energy efficiency, demand response, distributed generation, Permanent Load Shifting, solar rebates, and other applicable measures. The installed technology is a proven DSM measure, which is energy efficient and reduces energy consumption.

f) **Integration across resource types (energy, water, air quality, etc):**

All resources are positively impacted due to the comprehensive approach of this Program. This Program includes measures, which are highly efficient and reduce consumption of electrical energy, gas energy, water consumption and water waste. The ability to conduct multiple measures at each residence and cross-promote other SDG&E programs allows this program to concurrently target many different savings areas.

g) **Pilots:**

If new measures and/or energy savings data can be identified, they would be submitted for consideration to the program manager, in the form of work papers that would support the rationale for the new measure.

h) **EM&V:**

SDG&E is proposing to conduct market assessments/characterizations and process evaluations by market segment. Within each of these evaluations, a portion of the research will be assigned to the third parties involved to both ensure that the third-party programs are being run efficiently and that their integration to the portfolio is effective.

As was mentioned earlier, one of the key innovative activities that is taking place on an on-going basis is in the independent review of program evaluation (measured savings) and in the research and development of emerging technologies or new cost effectiveness measures that can serve the Manufactured-Mobile Home community. Such review will assist the Company to determine if the Program is meeting its goals and objectives. Contractor and its Representatives collaborate through the CPUC Energy Division and utility staff to provide updated input on energy savings data into DEER.

7) Diagram of Program

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model

The third-party program is an implementation channel and is included in the appropriate market segment logic models. No specific logic model for a particular third-party program has been developed. However, the following summary of the Program's logic is provided.

Comprehensive Manufactured/Mobile Home Program Theory and Logic

Inputs or Outputs	Description	Expected Short-Term Outcome	Expected Long-Term Outcome
Input	Resources: (1) Design Program (2) Develop Implementation Plan (3) Set Benchmarks (4) Monthly Accountability and Reporting (5) Assure that Financial Resources are available for sufficient operating capital (6) Allocate Office Team, Management, Production Team and Quality Control (7) Have a good interface and communication with Company	These resources will allow the program to get launched in an organized and productive manner that sets up benchmarks and monitors program progress, quality and success	These resources ultimately will contribute to the successful implementation and completion of this program, achieving the program energy savings and goals.
Input	Activities: (1) Have team planning session with all partners and associates. (2) Kick-off marketing and installation. (3) Do training with installers and technicians on processes and equipment. (4) Kick-off quality control program and review. Technician's installations and customer surveys. (5) Monthly Reporting of Program Progress. Regularly confer with Company on program progress, opportunities and challenges. (6) Complete the Final Report with Program Outcomes.	Contractor would expect to see from the implementation of these activities that the program comes on line on a timely basis, is meeting program benchmarks on a monthly basis, allowing for a regularly evaluation and progress report together with Company. There would be no surprises with this program. From the customer surveys Contractor will also be able to assess customer satisfaction and take actions to enhance program.	By implementing these activities Contractor should have steadily work toward the successful completion of this program on or ahead of time.
Input	Market Actors: (1) Outreach personnel. (2) Marketing Research and	With the engine of Contractor' marketing and outreach personnel	These individuals, coming together, provide the targeted market customer

Inputs or Outputs	Description	Expected Short-Term Outcome	Expected Long-Term Outcome
	Direct Mail Manager (3) Customer Service. (4) Liaison with property managers and owners. (5) Community Outreach. (6) Local Government Partnerships (LGP)	connecting with communities, property owners and managers, and local government representatives, Contractor will be able to explain the benefits of the program and market it to the end users and customers, leveraging LGP for additional outreach components and program validation.	base to where the energy savings services will be provided.
Output	Outreach contacts Made: XXXparks Customers reached through flyers and outreach: XX,XXX Installations complete: XX,XXX Energy Tips Brochure Distributed: XX,XXX Referrals to other SDG&E Programs: XX,XXX	The month-by-month report will show the systematic realization of the program goals and objectives	The successful completion of the program goals and objectives as outlined in this proposal.

2013-2014 PIP Addendum

Program Name	Appliance Recycling	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

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1. Changes to eligibiity rules
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7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** Statewide (SW) Residential Appliance Recycling
Program ID Number:
Program Type: Third Party

2) **Projected Program Budget Table**

Table 1[1]

See Table 1 of SW CALSPREE Performance Implementation Plan for budget.

3) **Projected Program Gross Impacts Table – by Calendar Year**

Table 2

See Table 2 of SW CALSPREE Implementation Plan for energy savings.

4) **Program Description**[2]

a) Describe program

This third party program will help facilitate SDG&E's implementation of the Statewide CALSPREE Program, Plug Load and Appliances Subprogram.

The Appliance Recycling Program (ARP) provides long-term coincident peak demand reduction and annual electric energy savings in the residential and nonresidential (small commercial) sectors by retiring and permanently removing operating, inefficient refrigerators, freezers and room air conditioners from service in SDG&E's service territory.

Services provided by Contractor for SDG&E's program will include:

- Design and execution of a marketing and advertising program featuring educational and promotional messages to inform consumers of the energy costs of operating inefficient refrigerators, freezers, and air conditioners; create customer awareness of the program; and generate requests for program services.
- Stringent adherence to qualification procedures to ensure that program participation is limited to eligible customers with eligible appliances.
- Maintenance of the program's current toll-free telephone number, 1-800-599-5792, and comprehensive customer service, including verifying eligibility of customers and their appliances, scheduling collection appointments, mailing appointment confirmation

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Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.
[2] To be provided for overall program (explaining how sub-programs form a coherent plan) and for each sub-program.

letters, and placing a reminder telephone call to the customer the day before the scheduled pickup, which is provided by Contractor's professional staff.

- Providing real-time interactive Internet scheduling capabilities to enable customers to access program information and schedule collection appointments.
- Extensive web-based, real-time reporting on all aspects of the program, which is available to SDG&E's program managers and staff through Internet access with their desktop computers.
- On-site program eligibility verification to ensure that the appliance is in operating (cooling) condition and meets all other program requirements.
- Safe removal of the appliance from the customer premises, disabling the unit before leaving the site to prevent re-use, and transporting the appliance to Contractor's fully permitted processing and recycling center.
- Auditing of appliances at pickup sites as they are loaded onto the truck and then again as they are processed at Contractor's facility.
- Innovative, environmentally sound appliance processing and recycling systems and methods, to remove and properly manage:
    - Hazardous components and materials, including PCB-containing capacitors.
    - CFC/HFC/HCFC refrigerants.
    - Polyurethane foam insulation.
    - Recyclable materials such as ferrous and nonferrous metals, plastics and glass.
- Accurate and timely processing and mailing of customer incentive checks, backed by experience in processing more than 800,000 incentives for electric utility programs.
- Ongoing quality assurance monitoring and auditing of all aspects of the operation.
- All required insurance coverage, including pollution legal liability coverage.

The program will be modified to be consistent with the Process Evaluation Study conducted by the Evergreen Economics where feasible and cost effective. The study recommended that SDG&E's Appliance Recycling program incorporate program advertisement through the promotion of bill inserts, consideration of altering incentives based on seasonality, and continuation of developing retailer partnerships.

Additionally, the table below provides the Final Decision's requirements on the re-orientation of the Appliance Recycling activities and IOUs' responses. The third-party program will be modified to conform to the re-orientation of the Statewide Appliance Recycling Program.

Final Decision's Requirements on Appliance Recycling[3]

Final Decision's Requirements	SW PLA PIP's Response	PLA PIP's Reference
1) Add New Appliances: Expand recycling efforts to include clothes washers and air conditioners - (FD, page 206).	Explore the opportunities to add new appliances but will not consider clothes washers or room air conditioners as both have been proven not to be cost effective.	Section 10(v)
2) Switch to Distribution Center Pick-Ups: Reduce overall program costs	Will use the results of SCE's Retailer Based Appliance Recycling Trial Study	Section 10(iv)

[3] Final Decision for the 2013-2014 Transition Period on pages 206-207 of Guidance Document

Final Decision's Requirements	SW PLA PIP's Response	PLA PIP's Reference
by directing retailers to pick up units for recycling. IOU program collections of appliances in the home could be replaced by collections at partner retailer distribution centers. IOUs must avoid duplicating existing efforts with these strategies - (FD, page 206).	to develop the new Retailer Base Appliance Recycling Element.	
3) Emphasize High Consumption and Secondary Units: Target units with highest savings potential and emphasize collection and recycling of vintage models, secondary units, and extra freezers - (FD, page 206).	Increasing focus on recycling of higher consumption and secondary units as part of the Statewide Appliance Recycling activities.	Section 10(v)
4) Influence Appliance Purchaser's Decision: Use the results of current recycling retailer trials to determine the best approaches to partnering with retailers. These partnerships could seek to cost-effectively capture savings through influencing a new appliance purchaser's decision to retire their old units. IOU retailer partnerships could include delivering new appliances at the same time as collecting old units for recycling. The IOUs should seek to coordinate collection of old units with appliance manufacturers and recyclers - (FD, page 206).	Will use the results of SCE's Retailer Based Appliance Recycling Trial Study to develop the new Retailer Base Appliance Recycling Element.	Section 10(iv)
5) Participants Receive Appliance Incentives upon Surrender of old Appliance: Condition the provision of appliance incentives upon surrender of older units for recycling - (FD, page 207).	Will focus on combining rebates for the purchase of high efficient appliance and Retailer Based Appliance Recycling program. This new strategy allows customers to participate in appliance recycling as part of the new appliance delivery-and-haul away process. This approach will not require customer to surrender their appliance as part of the rebate process but still allows IOU's to reduce program implementation cost while providing options that improve the customer experience.	Section 10(v)
6) Transition of Recycling to Market Actors: Transition the current appliance recycling program to	Transition of the current appliance recycling program to market players by a specific date could not be answered	Section 10(v)

Final Decision's Requirements	SW PLA PIP's Response	PLA PIP's Reference
market players by a specific date - (FD, page 207).	with certainty at this point. The IOUs will continue to engage the Commission and appropriate market actors on this – See Section 10(v) for more detail intervention treatment in the short-mid and long terms.	
7) Highest Standard of Recycling: Require ARP participating recyclers to comply with highest standards of recycling, including for GHG emissions in refrigerants and foam insulation - (FD, page 207).	Continue to require all participating recycling service providers to comply with the EPA RAD (Responsible Appliance Disposal) guidance.	Section 10(iv, v)
8) Properly Target Multifamily Residences: Develop new recycling approaches for the multifamily sector, including a bulk exchange approach - (FD, page 207).	Offer bulk pickups (at reduced recycling costs) and explore adding new program element to include appliance exchange program.	Section 10(v)

b) List measures

c) List non-incentive customer services

5) **Program Rationale and Expected Outcome**[4]

a) Quantitative Baseline and Market Transformation Information

MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as "Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market."[5] The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies[6].

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal

[4] To be provided for each program and sub-program in PIP.
[5] California Public Utilities Commission Decision, D.98-04-063, Appendix A.
[6] California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf

relationships, and 9) market structures[7]. Markets are social institutions[8], and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains[9] as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress[10]. According to York[11], "Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy."

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation[12]. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory[13], with the state of a market usually characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades[14]. Market share tracking studies conducted 3, 5 or even 10 years after the start of

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[7] Peloza, J., and York, D. (1999). "Market Transformation: A Guide for Program Developers." Energy Center of Wisconsin. Available at: http://www.ecw.org/ecwresults/189-1.pdf

[8] Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) "From technology transfer to market transformation". Proceedings of the European Council for Energy Efficient Economy Summer Study. Available at http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/

[9] Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

[10] Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings.*

[11] York, D., (1999). "A Discussion and Critique of Market Transformation", Energy Center of Wisconsin. Available at http://www.ecw.org/ecwresults/186-1.pdf.

[12] Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). "Market Transformation: Substantial Progress from a Decade of Work." American Council for an Energy-Efficient Economy, Report Number A036. Available at: http://www.aceee.org/pubs/a036full.pdf

[13] Rogers (1995) Diffusion of Innovations, 5th Ed.

[14] Example in bottom chart of this graphic from the New York Times: http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html

an MT program may reveal only small market transformation effects[15]. The ability to make causal connections between these market transformation effects and any particular program's activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)[16]" The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts[17], but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions[18]. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers[19] suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

Over the past several years a good baseline of market saturation has been established in the California Lighting and Appliance Saturation Study. The original study was completed in 2000 and then updated in 2005. The overarching goal for these studies is to provide efficiency levels of appliances in order to understand future energy savings

[15] Sebold et al (2001) p. 6-5,
[16] Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1."* Available at http://calmac.org/publications/19981215CAD0001ME.PDF.
[17] CPUC (2008) Strategic Plan, p. 5.
[18] Nadel, Thorne, Saches, Prindle & Elliot (2003).
[19] Peloza & York, (1999).

potential and past accomplishments in the residential sector. The IOUs propose that the values in these studies and the data made available in the "California Residential Efficiency Saturation Tool" be used as the basis for the metric for EE in the residential sector. Specifically it is proposed that a new California Lighting and Appliance Saturation study be conducted in 2010 to estimate again the efficiency levels for key measures. A comparison could then be made to the previous baseline studies of 2000 and 2005 and a determination made if a trend is taking place that indicates that more energy efficient solutions are being installed in residential households. As market transformation is more than just market share of measures, the suggested metrics also include an attitudinal metric.

Attitudinal change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customer attitudes, knowledge and awareness (AKA) of energy efficiency. In order to gauge an attitudinal based metric for this sector the CBEE Baseline Study on Public Awareness and Attitudes study may be employed. The CBEE Baseline Study on Public Awareness and Attitudes uses a battery of questions that have subsequently formed the foundation of surveys used in several later program evaluations. The California Residential Lighting and Appliances Program (CRLAP) Study, Phases 1, 3, and 4, track changes in the market on several AKA dimensions. These and any nation-wide attitude studies may provide a glimpse as to the state of customer AKA of energy efficiency. The usefulness of past surveys as baselines would have to be discussed by the MT collaborative since these were studies that took place before the CA energy crisis.

The surveys used in the CBEE and CRLAP studies may be modified and updated. Or, another battery of questions might be constructed to probe more contemporary knowledge of EE. Energy Attitude/Knowledge scales could be constructed from these questions and the first year responses on the scale could serve as the baseline for subsequent attitudinal change. Customers could be probed annually and their AKA change measured along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed. In addition, the suggested metrics also include a behavioral metric.

In addition, behavioral change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customers' past behaviors and intentions about energy efficiency. In order to gauge a behavioral based metric for this sector the statewide Home Energy Efficiency Survey (HEES) may be employed. The long-running Home Energy Efficiency Survey has provided recommendations for behavior changes, and program evaluation studies have assessed the adoption rate of these recommendations for both participants and nonparticipants over the past few program cycles. This information may be used to provide both a baseline and rate of change across time.

The surveys used to evaluate the HEES program may be modified and updated. Or, another battery of questions might be constructed to probe adoption of more contemporary behaviors such as unplugging unused electronics. Energy Behavior scales could be constructed from these questions and the first year responses on the scale could serve as the baseline for subsequent attitudinal change. Customers could be probed

annually and their Energy Behavior change measured along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed.

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment "H" are approved for this sub-program as applicable.

c) Market Barriers

In the absence of the ARP, two major market barriers inhibit the retirement and proper recycling of older, inefficient appliances in SDG&E's service territory:

1. Consumers lack information from other sources about the energy efficiency benefits of early retirement for old, working appliances; and
2. Consumers do not have access to services that reliably result in retirement and proper recycling.

The project services provide SDG&E's customers with a convenient, attractive and environmentally-sound alternative for managing working, older appliances. Traditional methods of managing replaced working appliances include:

- Keeping and using the appliance as a spare;
- Using a retailer haul-away and resale service;
- Selling or giving the appliance to another electric utility customer (including relatives, neighbors or a charitable organization); and
- Leaving the appliance behind when moving.

These methods lead to the continued use of older, inefficient appliances.

d) Program Design to Overcome Barriers

The ARP addresses the above mentioned barriers by collecting these energy-inefficient appliances, processing them to remove all environmentally harmful substances, and recycling the residual materials in compliance with all federal, state and local laws and regulations, preventing the appliances from returning to use or causing environmental damage through improper disposal.

The ARP's $50 financial incentive encourages customers to participate in the program rather than utilizing one of the traditional methods listed above to manage their old, operating appliance.

The ARP provides customers with a convenient, free service as an alternative to traditional methods of managing replaced working appliances. The program accelerates early retirement of replaced appliances and encourages early replacement of targeted appliance categories by providing financial incentives and coordination with other SDG&E appliance energy-efficiency programs. This is a highly cost-effective residential

program with a solid track record of success that will deliver the energy savings and demand reduction proposed by Contractor.

e) Quantitative Program Targets

Table 3

Program Name	Program Target by 2013	Program Target by 2014
Refrigerator Recycling	TBD	TBD
Freezer Recycling	TBD	TBD
Room Air Conditioning Recycling	0	0

f) Advancing Strategic Plan Goals and Objectives

- Many of the removed units are secondary units that are perhaps the largest residential "Plug Load." (2a. Residential Sector, Strategy 3)

You may also want to consider the following specifics:

- By removing inefficient appliances, which are replaced with more efficient ones, the program improves energy efficiency of homes and enhances the objective of reaching to Zero Net Energy homes. (2. Residential Sector, Strategies 1.1, 2.1, 2.3, 3.1, 3.3, and Low Income Strategy 1.1)
- By removing inefficient appliances, which are replaced with more efficient ones, the program improves energy efficiency of small commercial facilities and enhances the objective of reaching to Zero Net Energy work places. (3. Commercial Sector, Strategies 2.6 and 2.8)
- Encourages replacement of existing HVAC with more advanced technologies. (6. Heating, Ventilation and Air Conditioning, Strategy 3.1)
- Has potential to create demand for new and more efficient technologies. (11. Research and Technology, Strategies 1.4, 2.1, 2.2, 2.3, and 2.4)
- Has the potential to improve energy efficiency in some existing buildings. (12. Local Governments, Strategy 3.2)

6) Program Implementation

a) Statewide IOU Coordination

Marketing materials
The program's advertising is backed by program elements that motivate customers to participate by making enrollment simple and convenient. Contractor will provide:

- Customer service through continuation of the program's toll-free number, 1-800-599-5792 from 7 a.m. to 8 p.m. (Pacific) Monday through Friday and 7 a.m. to 6 p.m. on Saturday.

- An interactive, real-time website that enables customers to schedule their own collection appointment and complete the order process at their convenience.
- Providing links to other websites promoting SDG&E's energy-efficiency programs.
- In-home collection and room air conditioner drop-off events to provide options for customers to turn in their operating, inefficient appliances.
- Automatic processing and payment of customer incentives, with no additional forms to complete and mail.

The program's integrated advertising plan employs a combination of print and television media, along with public relations efforts, which include:

- Bill Inserts – Promotional inserts in consumers' monthly electric and cable television bills have proven to be a very effective form of program advertising because they can be zoned by zip code. This can increase participation in specific geographic areas, where, for example, a high percentage of HTR customers reside. Bill inserts targeted to specific areas will be used to promote both in-home collection and drop-off events.
- Television – With cable television, there is the flexibility to target advertising to selected metropolitan zones in SDG&E's service territory. Cable systems also offer a greater opportunity to stage ads throughout the broadcast day, which helps create a more level intake of customer orders and increases efficiency in handling incoming calls requesting collection appointments.
- Point-of-Sale Materials – Program literature displayed at new-appliance retailers, along with careful training of sales personnel to stress the requirement that only operating appliances are eligible for turn-in, reaches consumers at time of purchase when the financial incentive becomes an encouragement to step up to a more energy-efficient refrigerator such as an ENERGY STAR® unit.
- Public Relations – Well-timed press releases sent to local media with follow-up calls to answer questions and encourage coverage are also part of the public relations strategy in targeting a specific region or community.

Although types of media vary, the advertising message remains consistent. Essential elements are:

- Educating consumers on the high cost of operating an energy-inefficient refrigerator, freezer or room air conditioner.
- Promoting the energy and environmental benefits of new, energy-efficient appliances, especially ENERGY STAR® models.
- Highlighting the financial incentive participants will receive.
- Emphasizing the ease of participation, with appointment scheduling through the program website, placing a toll-free phone call or attending a drop-off event.
- Program will also coordinate activities with the national ENERGY STAR® appliance initiative by establishing a link from the program website to their website to increase consumer awareness and facilitate access to information on new ENERGY STAR® models.

The Contractor's marketing campaign is currently creating widespread awareness of the ARP through television and bill inserts in the greater San Diego area. The program has

produced several television spots and has developed a wide range of print materials that are produced in English and Spanish. SDG&E's project manager has final approval on all advertising materials.

IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

The SDG&E Appliance Recycling Program focuses on transforming the residential appliance market by causing an improvement in the efficiency levels of the overall inventory of refrigerators, freezers and room air conditioners within the company's service territory. As such, the program does not include any distributed generation measures and does not relate to the California Energy Commission's work on the Public Interest Energy Research (PIER) program. However, the program is a strategic intervention coordinated with other investor owned utility companies that aims to permanently remove from service older, energy-inefficient appliances that otherwise would have remained in use, either by their original owners or through entry into the second-hand appliance market.

Similar IOU and POU programs
Since the early 1990s, California's three investor-owned utilities have offered appliance recycling programs as core elements of their residential energy efficiency portfolios. Additionally, several municipal utilities and members of joint powers agencies (e.g., Southern California Public Power Authority) offer refrigerator and freezer recycling programs. Because advertising inevitably spills over into adjacent utility territories, program saturation throughout California reduces customer confusion by providing consistency in the opportunities for residents to remove inefficient appliances from service through utility-sponsored programs. Also, in addition to lowering energy consumption within a utility's own service area, statewide coverage helps to prevent the transfer through resale or give-away of old but working units into the service territories of neighboring utilities.

b) Program Delivery Mechanisms

Non-IOU programs
The program supports several non-utility initiatives that are offered on a national basis. The first is the Responsible Appliance Disposal (RAD) program sponsored by the United States Environmental Protection Agency (EPA). This program supports the proper disposal of appliances in order to protect the ozone layer and reduce greenhouse gas emissions. As part of the RAD program, participant partners recover ozone-depleting chemicals from old refrigerators, freezers, air conditioners, and humidifiers to ensure that:

- Refrigerant is recovered and reclaimed or destroyed.
- Polyurethane foam is recovered and destroyed, or the CFC-11 blowing agent is recovered and reclaimed.
- Metals, plastic and glass are recycled.
- PCBs, mercury and used oil are recovered and properly disposed of.

As part of the program, EPA serves as a technical clearinghouse on responsible appliance disposal program development and implementation; calculates annual and cumulative program benefits in terms of ODS and GHG emission savings and equivalents and, as available, potential cost savings; and provides partner recognition for achievement, such as through press releases, brochures, articles and awards.

RAD partners include utilities, municipalities, retailers, manufacturers, universities and other interested organizations.

The program also supports the early retirement component of the United States Department of Energy's ENERGY STAR® appliance program. Under this initiative, consumers are encouraged to replace their older, energy-inefficient appliances with new ENERGY STAR® listed models. To further increase the energy savings from replacement, consumers are urged to retire their old appliances through a comprehensive and environmentally sound recycling process.

The SDG&E ARP is a prime example of a how a local initiative can be integrated into larger regional and national efforts.

c) Interagency Actions Toward Market Transformation

d) Best Practices

The program design incorporates various best practice elements, including:

- Contractor experience in providing large-scale appliance collection, processing and recycling for high-volume electric utility programs, including the one sponsored by SDG&E. Contractor has provided services for SDG&E customers through the current 2006-2008 program, Statewide Residential Appliance Recycling Programs during 2002-2005, the Summer Initiative during 2000-2001, and the SBX1 5 program during 2001-2002.
- Appliance processing services to recover environmentally damaging materials for proper management, including advanced technology to:
    - Evacuate CFC/HCFC/HFC refrigerants from 10 to 20 refrigerators at one time.
    - Recover and recycle CFC-11 from polyurethane foam insulation with equipment designed and imported from Germany.
    - Drain compressor oil from three refrigerators at one time by use of a table that tips the appliances to a horizontal level for thorough oil recovery.
    - Recover CFCs entrained in compressor oil to reduce the concentration to levels low enough to allow the oil to be recycled according to California regulations.
- Web-based data management and reporting system that allows SDG&E's program manager to access real-time data about the program via a desktop computer and the Internet and extract information with customized reports.
- Interactive website to allow customers to conveniently schedule and confirm appliance pickup appointments via the Internet.

e) Innovation

f) Integrated/Coordinated Demand Side Management

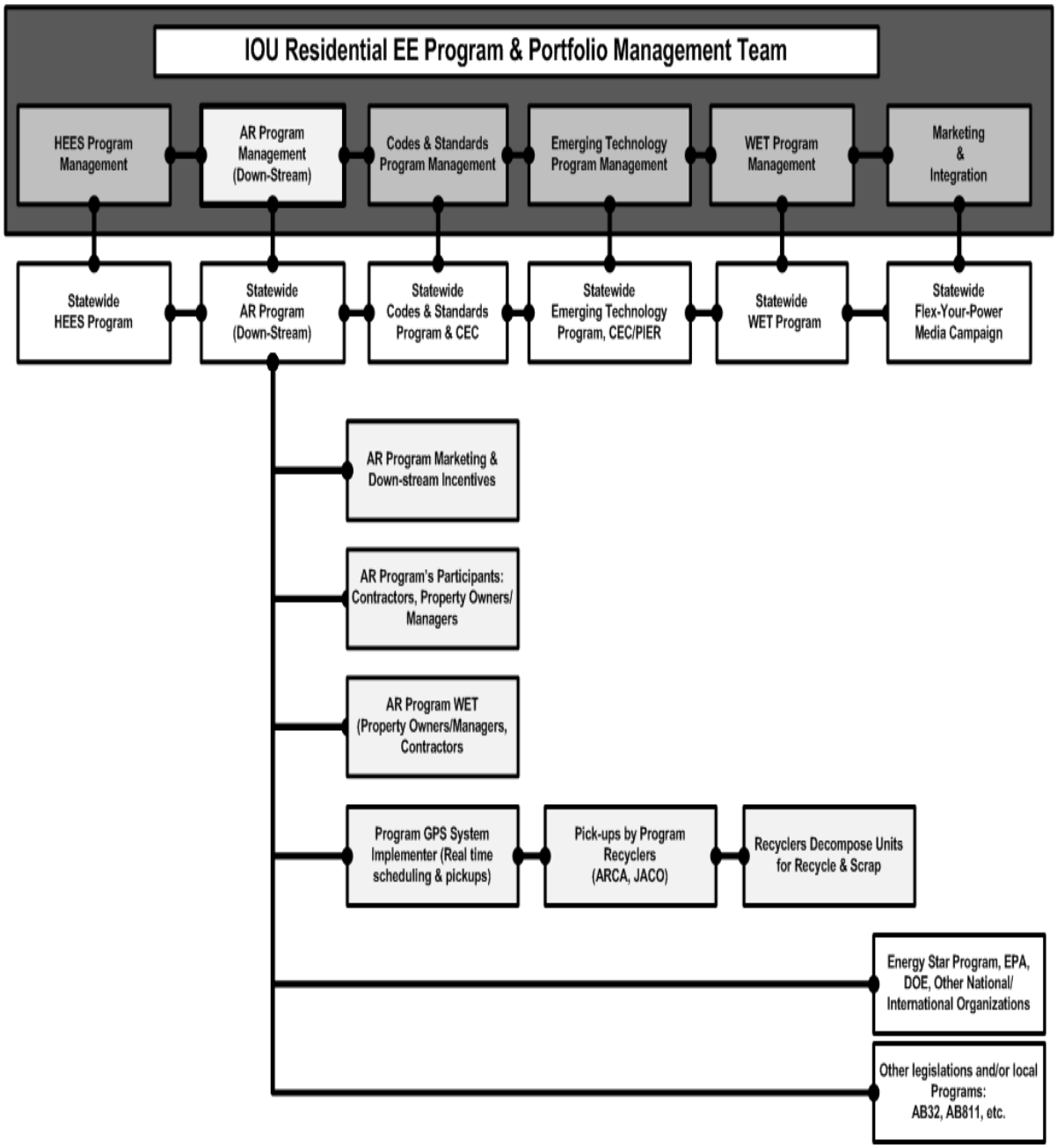
g) Integration Across Resource Types (energy, water, air quality, etc)

h) Pilots

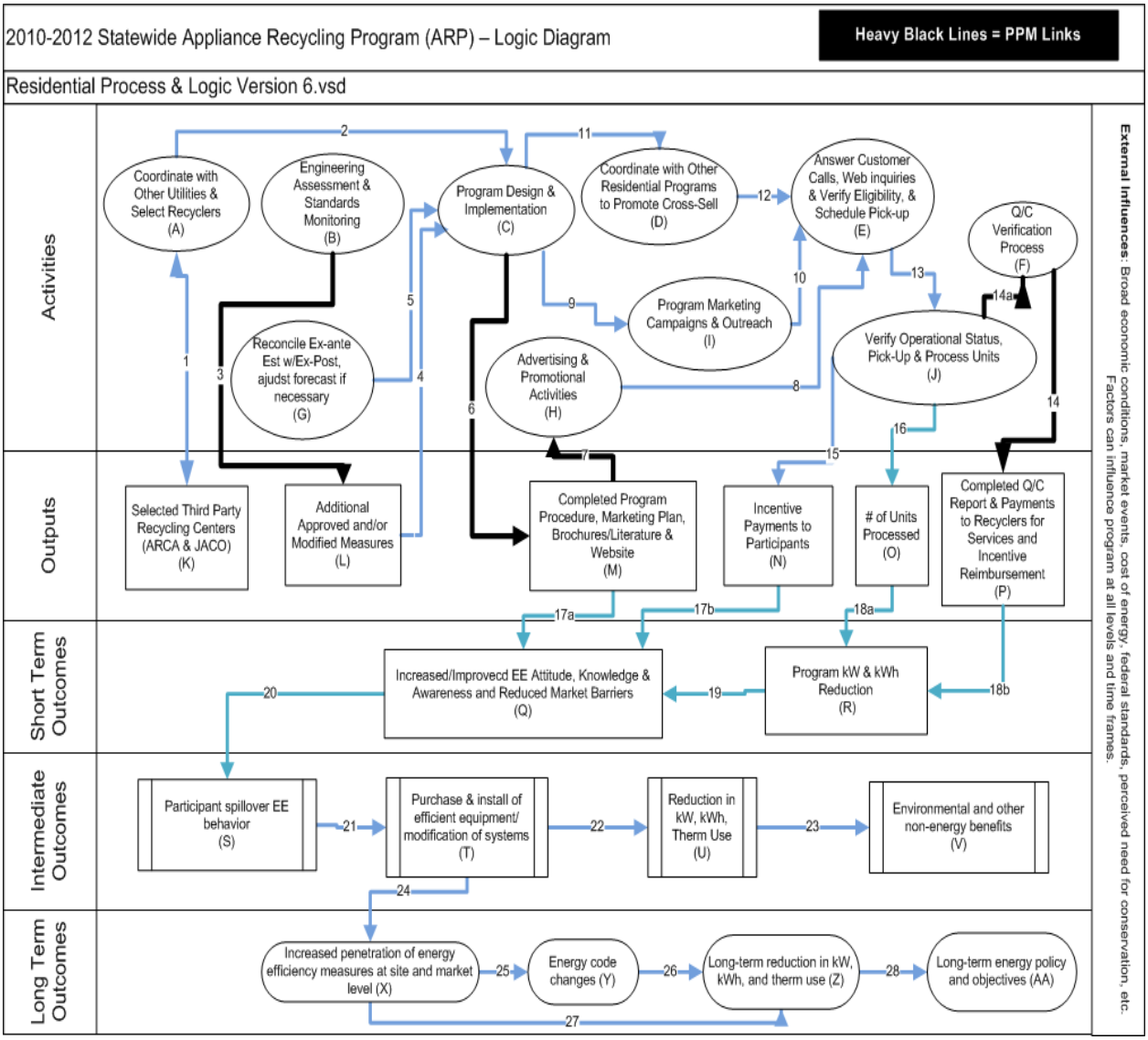
i) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2010 - 2012 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) **Diagram of Program**



8) **Program Logic Model**



2013-2014 PIP Addendum

Program Name	San Diego Retrocommissioning	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

Revision Date: 05/11/2012

1) **Program Name:** San Diego Retrocommissioning (RCx) Program
Program ID:
SDG&E Program Type: Third-Party Program

2) **Projected Program Budget Table**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3221	SW-COM-Calculated Incentives-RCx	$8,481	$0	$351,062	$2,000,000	$2,359,543

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3221	SW-COM-Calculated Incentives-RCx	276	9,754,445	106,254

4) **Program Description**

a) Describe program

The San Diego Retrocommissioning Program provides services and incentives to support retrocommissioning of commercial buildings larger then 50,000 square feet in the San Diego Gas & Electric (SDG&E) territory. The Program recruits potential candidates, screens and benchmarks buildings to determine eligibility, qualifies retrocommissioning providers, and provides oversight of the retrocommissioning process. Throughout the retrocommissioning process, the Program oversees the retrocommissioning provider's investigation. Following investigation, the Program helps customers select measures for implementation then provides support throughout the implementation process to maximize energy savings. When implementation is completed, the RCx provider conducts verification of the measures and provides training to the building operators to maintain the measures and associated energy savings over time. Finally, the RCx Program installs performance tracking and monitoring equipment as an offering to approximately one third of the projects to provide ongoing monitoring and verification of energy savings.

The Program targets all commercial sectors, focusing on office, healthcare, hospitality, high-tech, retail and grocery customers.

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

b) List measures

The Program provides retrocommissioning services and incentives for measures identified in the retrocommissioning investigation. Retrocommissioning is a systematic process for improving building performance by identifying and implementing low cost operational and maintenance improvements. The process focuses on the operation of mechanical equipment, lighting, and related controls, and is intended to optimize how equipment operates as an integrated system.

c) List non-incentive customer services

The San Diego RCx Program will provide a one-day workshop for the retrocommissioning industry and interested stakeholders. This class is intended to educate stakeholders and attract new participants and providers to the Program. In addition, the Program qualifies and provides training to retrocommissioning providers. This serves the retrocommissioning industry and customers by providing a high level of training for all providers.

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Information:
This section is not applicable.
b) Market Transformation Information:
This section is not applicable.
c) Program Design to Overcome Barriers:

Five major barriers to the Retrocommissioning Programs are identified in the following paragraphs and strategies to overcome these barriers are described.

Barrier: Ability of service providers to deliver consistent results that meet Measurement & Verification (M & V) requirements varies widely.

Solution: Build on 2010-2012 Program best practices by continuing to provide protocols, tools and Quality Assurance - Quality Control (QA-QC) processes that will ensure expeditious and consistent delivery of services across projects.

Contractor's existing California retrocommissioning Programs have developed a pool of nearly 50 qualified RCx provider firms with demonstrated experience, skills and training. Contractor has gained extensive experience working with providers, and has continually developed and improved the program tools and the methods of working with the providers to achieve desired outcomes. For the 2013 - 2014 Program, Contractor will leverage its relationships with and training of providers to move the Program forward quickly and smoothly.

When new providers are selected for projects, the program will conduct one-on-one program orientations to review the RCx provider tasks, the program tools, and the expectations for deliverables to bring them up to the level of more experienced providers. All deliverables submitted by providers, including reports, calculations and data, will be rigorously reviewed for accuracy and energy savings by the program. Feedback will be

provided to each provider to verify and improve savings calculations on existing and future projects.

Barrier: Building owners are slow to commit to retrocommissioning.

Solution: Leverage existing relationships and marketing connections to quickly gain customer participation.

As a relatively comprehensive and complex energy efficiency strategy, retrocommissioning requires a long sales cycle to obtain owner commitment. Contractor will rely on developed relationships with key customers and an existing customer pipeline in San Diego that will enable Contractor to quickly launch the 2013-2014 Program and obtain early commitments. Contractor's key marketing strategies will include leveraging existing relationships with building owners, networking through trusted industry associations, and marketing the confirmed success of past projects in the San Diego region.

A number of building portfolio owners, with whom Contractor has developed relationships have identified additional retrocommissioning candidate buildings in their portfolios. As these building owners have gained experience with Contractor and the current Program, their relationships with Contractor have evolved into trusted business relationships. Contractor has made significant headway in educating San Diego-area building owners on the benefits of retrocommissioning.

Barrier: Retrocommissioning has a long measure implementation cycle; consequently, it is difficult to maintain project momentum and building owner engagement.

Solution: Involve building owners early in the process to reduce risks and maintain ongoing communication with the building owner and staff throughout the process to ensure movement forward.

Contractor's on-the-ground Field Energy Analyst will continue to build strong relationships with building owners from Day One of the project to ensure their full buy-in and establish lines of communication between the Program and the building owner. Participating owners who make the commitment to engage in the Program will agree to involve their staff in the investigation and implementation.

The Owner Program Agreement signed at the start of the project commits the owner to completing the implementation of all energy efficiency measures within 12 months of signature. If the building owner does not follow the timelines outlined by the Program, the incentives are put at risk. To ensure ongoing involvement of the building owner, the Field Energy Analyst will maintain communication with the owner throughout the project, provide regular project updates, and keep the owner on-task when their action is needed to drive the project forward. Retrocommissioning providers will be encouraged to offer turnkey services to building owners wherein the provider conducts the investigation *and* oversees the implementation of the identified measures, thus ensuring proper implementation.

Barrier: Measuring and verifying the persistence of energy savings from some operational adjustments can be challenging and costly.

Solution: Establish persistence strategies to ensure savings persist and to identify measures that are not performing to expectations.

The Program selected about 20% of projects (from 2006-2012) to participate in a year-long performance tracking of implemented measures. Results indicated that RCx savings generally persisted or even exceeded expectations. As customers are now required to benchmark their buildings with ENERGY STAR® as a prerequisite to participate in SDG&E rebate and incentive programs, continuous tracking with ENERGY STAR is the suggested methodology for measuring whole-building performance. The Program's final phase for each project will continue to include the delivery of complete building documentation and in-depth training for the building staff. When building operators are properly trained on the new documentation, implemented measures, and requirements for ongoing maintenance and monitoring, they are much less likely to circumvent or tamper with the new measures as they address the building's operation and maintenance over time. Follow-up training will also include the hand-off of the ENERGY STAR® Portfolio Manager account and training on its use.

Barrier: Customers with portfolios that include small buildings cannot apply the RCx Program across their entire portfolio due to Program restrictions of 100,000 square feet minimum building size.

Solution: Modify restriction to 50,000 square feet minimum for mid-size customers and grocery stores and utilize recently developed investigation/calculation tools to obtain cost-effective electric and gas savings for smaller buildings.

Currently, hundreds of buildings between 50,000-sq-ft and 100,000-sq-ft exist in the SDG&E service territory and present a good opportunity for RCx energy savings. When the RCx Program was first developed, it was determined that cost-effective projects were typically found in buildings that were 100,000-sq-ft or larger. With the adoption of new tools, RCx measures can be identified in a cost-effective manner for buildings smaller than 100,000-sq-ft. The program has developed specific RCx tools for grocery stores that can be used unlock additional energy savings in the commercial market. Smaller buildings would apply within the existing RCx Program's process. These buildings would then be screened for eligibility and the investigation methodology ("Express" RCx or custom investigation) would be determined prior to customer commitment. Grocery stores under 50,000 may be considered on a case-by-case basis after review and approval by SDG&E.

d) Quantitative Program Targets:

Table 3

San Diego RCx Program	2013 Program Target	2014 Program Target
Target #1 - applications	76	9
Target #2 - screenings	70	5
Target #3 - committed kWh	11,047,171	300,000
Target #4 - installed kWh	2,816,793	8,450,378

Note: Assumptions for targets 1, 2, and 3 are based on past program experience. Due to the custom nature as well as the uniqueness and complexity of each participating facility, the number of applications, screenings, and committed kWh may vary (up or down) based on how many are required to meet the energy savings goals specified in Target 4.

e) Advancing Strategic Plan goals and objectives:

The California Energy Efficiency Strategic Plan, required by the California Public Utility Commission (CPUC) Decision 07-10-032, calls for strengthening the retrocommissioning efforts within the Investor Owned Utility (IOUs), using benchmarking information to identify and screen candidate buildings. The San Diego RCx Program will provide building screening and benchmarking in addition to supporting broader education in the market to increase awareness of and willingness to fund retrocommissioning.

This program supports the Strategic Plan in the following manner:

- Program utilizes ENERGY STAR benchmarking and is utilizing tools and strategies to move commercial buildings toward zero energy use (3. Commercial Sector, Strategy 2).
- Ensures that HVAC and controls contractors are involved early in RCx process to ensure quality HVAC installation and maintenance (6. Heating, Ventilation and Air Conditioning, Strategy 2).
- Program utilizes whole building audits to identify multiple resource savings opportunities – EE and DR, and other resources (8. DSM Coordination and Integration, Strategy 3).
- Provides training to building managers for ongoing operation and maintenance of buildings after project implementation (9. Workforce Education and Training, Strategy 4).
- Program utilizes whole building audits to identify multiple resource savings opportunities – EE and DR, and other resources (7. Codes and Standards, Strategy 1.3)
- Provides training to building managers for ongoing operation and maintenance of buildings after project implementation. (9. Workforce Education and Training, Strategy 1.2)

6) **Program Implementation**

a. Statewide IOU Coordination:
   i. Program name
   ii. Program delivery mechanisms
   iii. Incentive levels
   iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
   v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
   vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:
   i. Emerging Technologies program
   Not applicable to this program.
   ii. Codes and Standards program
   Not applicable to this program.
   iii. WE&T efforts
   Not applicable to this program.
   iv. Program-specific marketing and outreach efforts (provide budget)
   Not applicable to this program.
   v. Non-energy activities of program
   Not applicable to this program.
   vi. Non-IOU Programs
   Not applicable to this program.
   vii. CEC work on PIER
   The San Diego RCx program will support the California Energy Commission Public Interest Energy Research (CEC-PIER) goal of increasing the adoption of energy efficiency measures in California. The Program will provide a channel for the testing and adoption of PIER-funded tool development, such as retrocommissioning measure tools and calculators. As PIER research identifies new strategies and tools in retrocommissioning, the San Diego RCx Program will be in an ideal position to deliver these to the market and increase adoption of best practices. Finally, the data collected from the large number of RCx projects completed through the Program could provide PIER with the opportunity to further understand and communicate the costs and benefits of retrocommissioning.
   viii. CEC work on codes and standards
   Not applicable to this program.
   ix. Non-utility market initiatives
   Pursuing retrocommissioning is a growing trend among commercial building owners. RCx identifies the hard-to-find low-hanging fruit, with energy savings

that pay back in 2 years on average and can provide 5-20% energy savings. Generally, building owners are looking for more and more ways to find energy savings in their buildings without the costly outlay of retrofits. RCx offers a low cost, high return on investment opportunity to identify and realize significant operational savings.

The San Diego RCx Program aligns with a number of non-utility efforts to provide viable low cost energy saving strategies for building owners. The RCx Program provides participants with an Energy Performance Rating obtained through the Environmental Protection Agency's ENERGY STAR® Portfolio Manager, building on the momentum in the market behind benchmarking buildings to track performance over time. Recently, Co-Star, the commercial multiple listing service, began including ENERGY STAR ratings in property listing, providing an even stronger market push for more energy efficient buildings. Finally, the RCx program aligns with the Building Owners and Managers Association Energy Efficiency Program (BEEP), which helps owners identify no- and low-cost energy savings opportunities.

c. Best Practices:

The Program will leverage lessons learned and best practices from the retrocommissioning programs across the state. The program incorporates a variety of best practices, including:

- Program Management: The program has developed and maintains clear lines of responsibility and communication and uses well-qualified engineering staff.
- Program Participation Process: Program keeps the application process and forms from being overly complex and costly to navigate, provides technical assistance to help applicants through the process, and has developed a cadre of trade allies who can then assist customers through the process.
    - The Program provides comprehensive project support services for the customer from start-to-finish, focusing on reducing the "hassle factor" by guiding the customer through the project and ensuring proper documentation of all work conducted. The Program also works very closely with the RCx providers, ensuring providers receive the support and training they need. For each new provider, Contractor conducts a one-on-one program orientation with the provider to review tasks and expectations for deliverables.
    - The Program also develops an ongoing relationship with providers to ensure projects are on schedule and deliverables are received. Finally, the Program facilitates multiple project-level check-ins to ensure constant communication between the RCx provider, building owner and operations staff, and the Program.
- Verification, Measurement and Quality Control: To ensure the reliability of savings, Contractor provides clear tools, guidelines, and training to RCx providers, pursues a rigorous QA-QC process on all Program deliverables and performs post-implementation site visits to ensure measures are implemented. Following implementation, the Program focuses on educating building owners to optimize the operation of the building and to ensure that the installed savings persist over time.

d. Innovation

- The Program will identify buildings that are candidates for Company demand response programs and refer owners to demand response program representatives.
- The Program will enhance its performance tracking strategy with the application of new tools to help ensure measures persist in the buildings with the highest savings and highest levels of persistence risk.

e. Integrated/coordinated Demand Side Management:

Not applicable to this program.

f. Integration across resource types

Not applicable to this program.

g. Pilots:

Not applicable to this program.

h. EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2013-2014 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) **Diagram of Program**

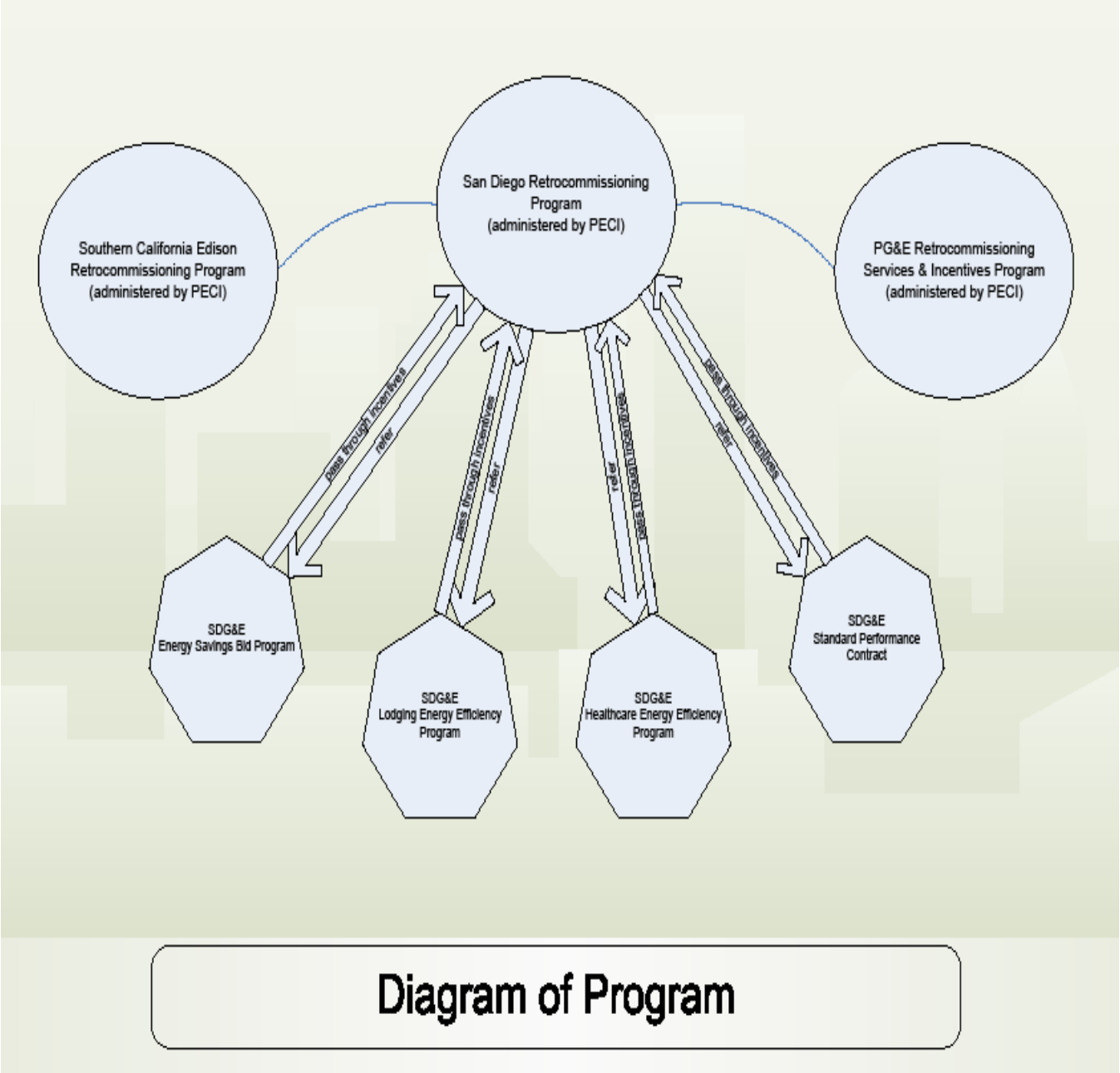
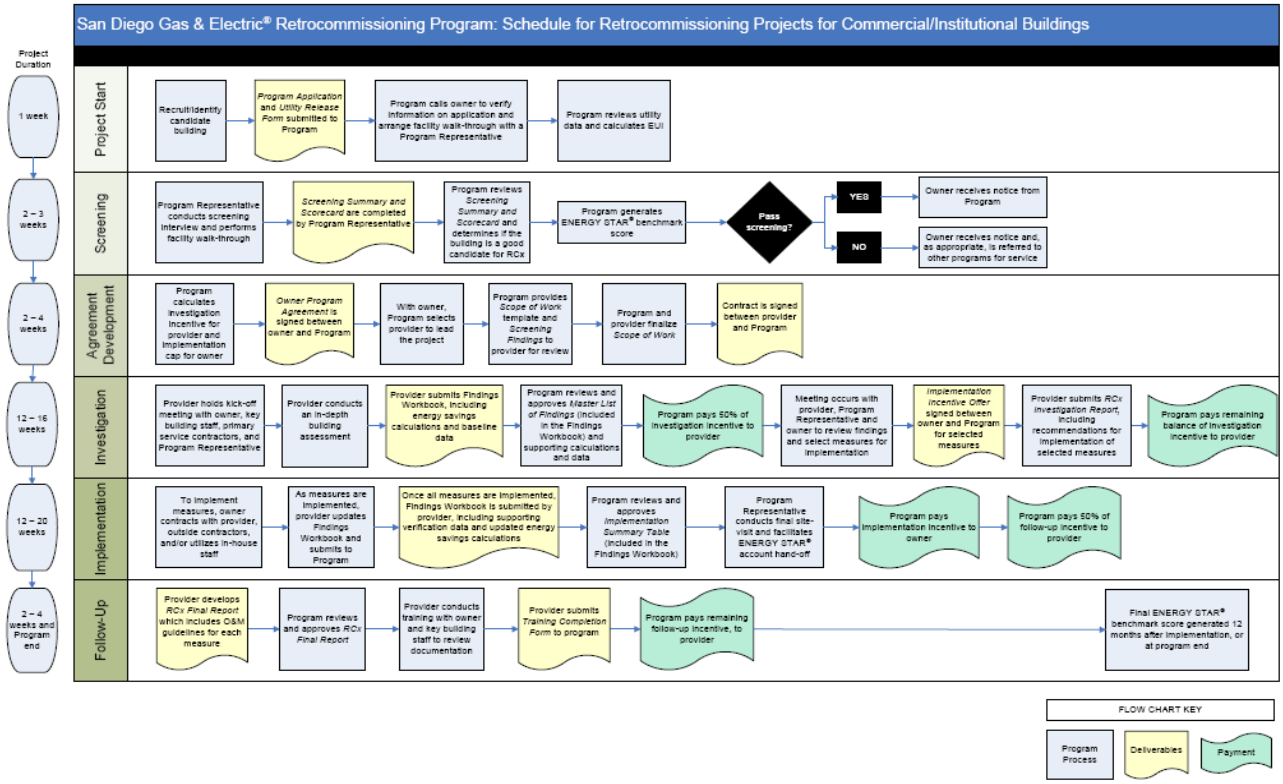


Diagram of Program

8) **Program Logic Model**

Third party programs are an implementation channel and are included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

In lieu of a Program Logic Model, the *San Diego Gas & Electric Retrocommissioning Program: Schedule for Retrocommissioning Projects for Commercial/Institutional Buildings* is provided to further clarify the process flow for buildings enrolled in the Program.



2013-2014 PIP Addendum

Program Name	K-12 Energy Efficiency Education	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** K-12 Energy Efficiency Education
Program ID Number:
Program type: Third-Party Program

2) **Projected Program Budget Table**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3256	SW-WE&T-Connections K-12	$2,594	$20,000	$832,354	$0	$854,948

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3256	SW-WE&T-Connections K-12	0	0	0

4) **Program Description**

a) Describe program

The SDG&E K-12 Energy Efficiency Education Program is designed to educate students about energy with an emphasis on energy efficiency. The primary purpose of this Program is to create awareness amongst families, students, and teachers of the potential cost savings opportunities available through behavioral changes related to energy use. The objective of the Program is to change the behavior of students so that they always exhibit good conservation practices at home and school. The intent is to have participating local teachers influencing other local teachers to become engaged and implement the curriculum in their classrooms. SDUSD and SDCOE will engage science teachers through professional developments, measure knowledge outcomes as a result of curriculum implementation, and survey teacher, students, and family behavioral changes as a result of this curriculum implementation.

Specifically, the Program:

- Educates K-12 students in the SDG&E service area about energy efficiency;
- Provides professional development for teachers;
- Disseminates energy efficiency education materials; and
- Implements the Program throughout SGD&E service area.

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

b) List measures

This Program does not provide any incentives.

c) List non-incentive customer services

The following measures are provided directly by the Program:

- Curriculum kits targeted at grades 1, 4, 6 and high school;
- Teacher support materials, and
- Take home materials for students.

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Information:
This section is not applicable.

b) Market Transformation Information:
This section is not applicable.

c) Program Design to Overcome Barriers:

Most people lack a good understanding of how behaviors impact their use of energy and the cost thereof. The energy market lacks price signals that are clear enough to influence behavior. This lack of price elasticity leads customers to use more energy than they might if the cost of their actions were clear. Implementation of no-cost behavioral changes alone can save 10% to 30% of the energy use in a typical home. Incorporating education and awareness about energy efficiency into the K-12 curriculum not only influences young people, but has a very good change of influencing the adults at home as well.

Barrier	Solution
Lack of consumer information about energy efficiency benefits	This Program provides energy efficiency measures that can be installed directly in customers' homes and thus consumers can experience the benefits of EE.
Lack of a viable and reliable resources to educate and inform	This Program provides customers with energy efficiency information from a trusted source – the school system.

d) Quantitative Program Targets:

Table 5

K-12 Energy Efficiency Education	Program Target by 2013	Program Target by 2014
# of on-site trainings to be held	8	8
# of on-line trainings	138	138
# of teachers trained at on-site professional development	618	618
# of teachers trained at online professional development		
# of K-12 students reached	8970	8970
# of schools to be trained	250	250
# of kits to be distributed	618	618

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

The program will advance strategic plan goals,by:
1. Promoting the participation of minority, low income and disadvantaged communities in training and education programs.
2. Promoting green careers to K-12 students through energy, environmental curriculum and highlight green careers/jobs.
3. Helping students learn about and prepare for green jobs through classroom instruction, experimental learning, and exposure to professionals in the field,
4. Educating students on energy, water, renewable energy, demand response, distributed generation as well as green house gases and impacts to the environment, with the goal of influencing day-to-day decisions of students and their households (customer awareness focused)
5. Educating schools on the benefits of implementing energy efficiency policies and demand response programs at their sites to impact energy use in schools, and (customer awareness focused), and
6. Working with the State's Department of Education (Curriculum Commission) as well as Counties' Departments of Education to be included in curriculum development advisory boards so that we can contribute to tailored K-12 curriculum that includes the science of energy, energy efficiency and some discussion about green careers.

6) **Program Implementation**

a. Statewide IOU Coordination:
   i. Program name
   ii. Program delivery mechanisms
   iii. Incentive levels
   iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
   v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
   vi. Similar IOU and POU programs

This third-party Program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

The K-12 Energy Efficiency Education Program is similar to education programs operated in California's other utility service territories.

b. Program delivery and coordination:

   i. Emerging Technologies program
   Not applicable to this third-party program.
   ii. Codes and Standards program
   Not applicable to this third-party program.
   iii. WE&T efforts
   Not applicable to this third-party program.

iv. Program-specific marketing and outreach efforts (provide budget)
Not applicable to this third-party program.
v. Non-energy activities of program
Not applicable to this third-party program.
vi. Non-IOU programs
Not applicable to this third-party program.
vii. CEC work on PIER
Not applicable to this third-party program.
viii. CEC work on codes and standards
Not applicable to this third-party program.
ix. Non-utility market initiatives
Not applicable to this third-party program.

c. Best Practices:

The Program design incorporates various best practice elements. Specific items include[2]:

Program Theory and Design

- The Program has feedback loops built into program design & logic. An example of this is the Program's integration of results from its recent process and impact evaluation such as enhancing its website by developing teacher portals and provided web links for students, teachers and families.

Program Management: Quality Control and Verification

- The Program assesses customer satisfaction with the product through evaluation. These evaluations are conducted regularly, helping ensure delivery of a quality product.

Program Implementation: Participation Process

- Program consciously seeks to make participation in the program easy for teachers, students and their families. In particular, the Program uses a simplified Internet interface to help distribute information.
- In addition, participation strategies are multi-pronged and inclusive. Information is distributed directly and through the Internet with specialized training also provided through the Program's web site.

d. Innovation:
This is not applicable to this program.

e. Integrated/coordinated Demand Side Management:
This Program supports the ideals of integrated demand-side management by encouraging widespread customer adoption of a variety of energy efficiency and other energy-related measures.

[2] The best practices listed below are identified in the *National Energy Efficiency Best Practices Study, Volume S – Crosscutting Best Practices and Project Summary*, Quantum Consulting, Inc., December 2004.

f. Integration across resource types (energy, water, air quality, etc):

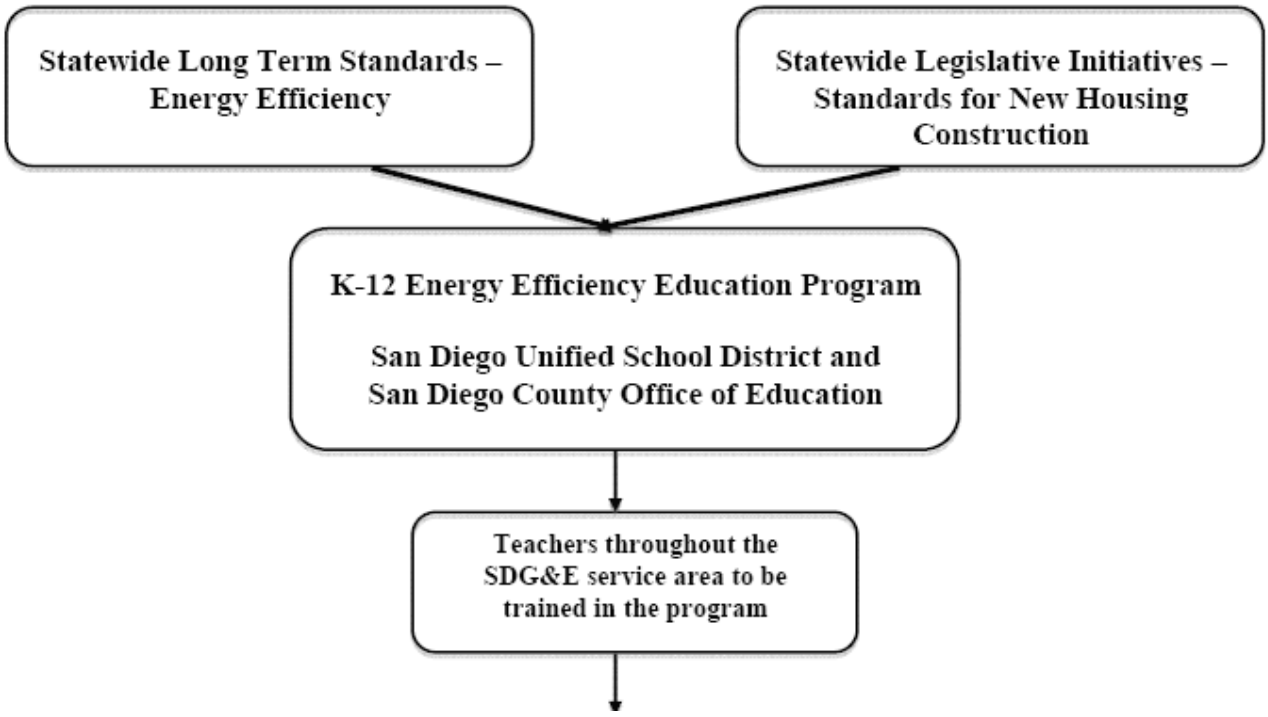
This Program promotes electricity, natural gas, and water conservation through the variety of measures distributed in its kits.

g. Pilots: Please describe any pilot projects that are part of this program.

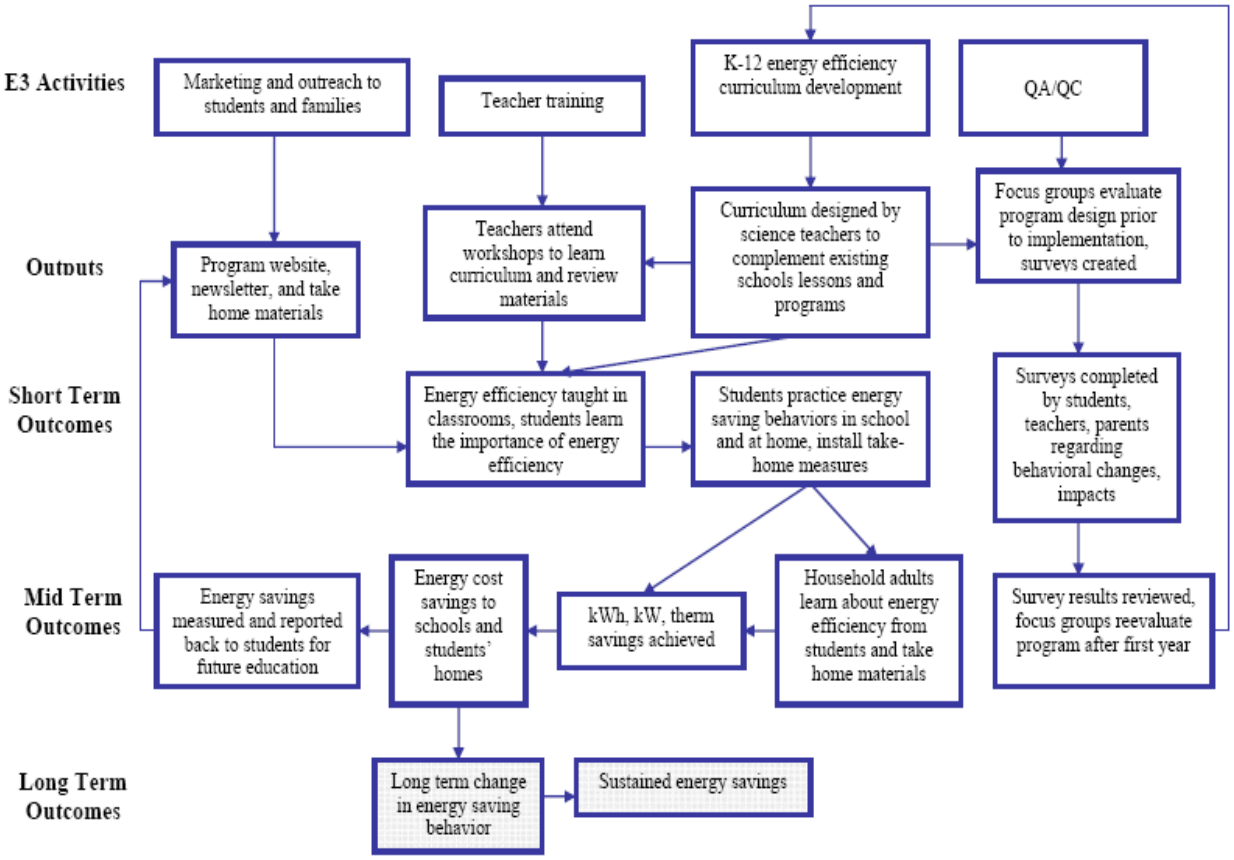
This is not a pilot program.

h. EM&V:
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2011 - 2012 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) **Diagram of Program**



8) **Program Logic Model**



Shaded boxes indicate induced outcomes that are outside of the direct program influence

2013-2014 PIP Addendum

Program Name	Residential HVAC QM/QI	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** Residential HVAC Quality Maintenance/Quality Installation of New Equipment (also known as AC Quality Care)
Program ID Number:
Program type: Third-Party Program

2) **Projected Program Budget Table**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3212	SW-CALS – Residential HVAC-QI/QM	$176,371	$26,397	$859,886	$1,444,625	$2,507,278

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3212	SW-CALS – Residential HVAC-QI/QM	1,057	1,130,643	20,756

4) **Program Description**

a) Describe program

The Residential HVAC Program is a Statewide program that will continue the transformation process of California's HVAC market to ensure that:

- HVAC technology, equipment, installation, and maintenance are of the highest quality;
- Quality installation and maintenance practices are easily recognized and requested by customers;
- The HVAC value chain is educated and understands their involvement with energy efficiency and peak load reduction; and
- The above changes lead to sustained profitability for HVAC trade allies as the business model for installing and maintaining heating and cooling systems changes from a commodity-based to a value-added service business.

This third party program may be implementing the 2010-2012 Statewide residential HVAC program deliverables of the Quality Maintenance Development program and the Residential Quality Installation Program in 2013-2014. They may also be implementing elements of the Residential Quality Installation Development in 2013-2014 in collaboration with SDG&E program management.

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Deliverables of the 2010-2012 HVAC Core PIP continuing in the 2013-2014 Transition Period that require collaboration and market transformation activities with the Western HVAC Performance Alliance (Statewide HVAC Industry Task Force) that influence the Quality Maintenance and Quality Installation programs will be conducted by utility program management. The 2013-2014 Transition Period Third Party Residential HVAC Program through collaboration with utility program management aligns with the development of cost effective HVAC programs to meet the HVAC deliverables of the California Long Term Energy Efficiency Strategic Plan. Market transformation and direct energy savings and demand reductions will be achieved through a series of sub-programs that are described in detail and summarized below:

Residential HVAC Quality Maintenance
Residential HVAC Quality Maintenance program represents one of the more creative aspects of the HVAC "Big Bold Energy Efficiency Strategy." It is based on the assumption that there are energy and demand savings achievable through the regular application of quality maintenance (QM) procedures applied to existing residential HVAC equipment. This program intends to (1) quantify those potential savings and (2) develop and implement a residential maintenance program. This program will be focused on comprehensive, continuously improving O&M activities that capture energy savings and provide a high value to the end-user thus driving the intense level of market transformation of the HVAC industry envisioned by the Strategic Plan.

Residential HVAC Quality Installation Development
Residential Quality Installation Development is applicable to quality installation (QI) of split or packaged HVAC systems, with a rated capacity up to 65,000 BTU/H.
This Residential sub-program element is based on the assumption that energy and demand savings are achievable through the application of QI in accordance with appropriate industry standards (e.g., ACCA, SMACNA and ASHRAE) applied to new HVAC equipment.

This sub-program intends to:

- Collaborate with EM&V efforts to quantify those potential savings;
- Develop and implement a sub-program focused on comprehensive, continuously improving installation activities that capture those savings and provide a high return on investment to the end-user, thus driving the intense level of market transformation of the HVAC industry envisioned by the Strategic Plan;
- IOU's will continue to development in 2013. The sub-program will be developed in collaboration through stakeholder input from the HVAC industry.

For SDG&E the Quality Maintenance and Quality Installation program may be implemented by a third party through a competitive bid process for the purpose of soliciting innovative ideas and proposals for improved portfolio performance.

b) <u>List measures</u>

To achieve the market transformation desired by the Strategic Plan, a variety of appropriate financial and non-financial incentives is required to influence specific market

actions. Incentives will be targeted to services including Quality Maintenance and Quality Installation Development.

Residential HVAC Quality Maintenance

In support of both the market transformation and the energy resource savings goals of the program, rebates are available for specific measures. The intention of these rebates is to help offset the extra cost of providing a higher quality comprehensive service performed in accordance with the ACCA 4 industry standard for Quality Maintenance. Additionally, in coordination with the Emerging Technologies Program, the Residential HVAC QM program will continue to consider higher initial incentives for any HVAC emerging technologies that may be newly introduced to the market place via this program. Once the new products have taken hold in the market place, such incentives would be adjusted to reflect market conditions. The current set of measures is as follows:

Table 1 – List of Residential Quality Maintenance Measures

Measure	Prerequisite	Measure Requirements	Range
QM-Standard Basic Assessment	No prerequisite measures.	Must cover all the steps included in the Assessment Process, including a conversation with customer about their goals and concerns.	***$ 50.00***
	All measures must be performed by a participating contractor's qualified technician.	Must include a report with a written estimate for work required to meet standard.	
Advanced Air Flow Correction	Completion of the Assessment	Must address any deficiencies in air flow per the standards identified in the Assessment process.	***$ 250.00***
Blower Motor Retrofit	Completion of the Assessment	The installed motor model must be a direct drive, permanent magnet, and constant speed motor.	***$ 150.00***
Refrigerant System Service	Completion of the Assessment and Air Flow Correction	Work must meet the protocols covered in training and is expected to be incorporated into a software tool.	***$50 to $100***
		Must be done when weather conditions will support accurate results.	
		Must be done within eight months of completion of Air Flow Correction work (the delay is allow time for proper weather conditions to resume).	
QM-Standard Preventive Maintenance Agreement	Completion of the Assessment • Completion of either Air Flow Correction or Blower Motor Retrofit	The optional standard service agreement must include the provided Service Agreement QM Addendum. The optional agreement must cover at least one year of service with two seasonal visits.	***$ 50.00***

SDG&E Local Activity

QM-Efficient Fan Control	Completion of the Assessment	Must properly install a program approved fan control device.	***$50.00***

Note: Additional QM measures from DEER and workpapers may be added to this list as they become available during the program cycle.

Residential HVAC Quality Installation Development
At this point, providing a list of measures and incentive levels is premature, as a valid quality installation based sub-program must be well planned and vetted through the Western HVAC Performance Alliance (WHPA). This sub-program will be designed during 2012 and 2013 for the 2013-2014 program cycle and therefore will not be providing incentives, at least not initially.

SDG&E Local Activity

The SDG&E Quality Installation program may continue to offer the ENERGY STAR Quality Installation structure. This local program may also offer high-efficiency equipment rebates as a component of the program. The program may include incentives for additional types of HVAC equipment such as ductless mini-split systems, and high efficiency evaporative cooling systems.

c) List non-incentive customer services

Residential HVAC Quality Maintenance

- Education of the market on the value of selecting high-efficiency systems.
- Reports for customers of estimated energy savings, cost savings and carbon reductions for their HVAC systems treated under the program.
- Training for contractors on HVAC industry standards, sales and marketing of the value of those standards, and their implementation in the field.
- Education for customers on how HVAC industry standards can help them compare bids of contractor services and select those with high-road skills.
- Customer education about the benefits of establishing a long-term trust relationship with a qualified contractor, which can lead to future energy and cost savings, such as from better planning for future HVAC system replacements and the quality installation of those systems when replaced.
- Improved comfort and indoor air quality for customers.

Residential HVAC Quality Installation Development
This sub-program development process will be performed with HVAC industry involvement to ensure that:

- The measures eventually included in the program can be reasonably assured to save energy and lower peak demand;
- A clear value proposition can be demonstrated so that contractors will see the path for a profitable business opportunity based on QI and customers will understand the benefits of equipment maintained at a higher level of quality;
- An effective training program will be put in place to ensure that technicians can properly implement QI services;
- The processes employed will document that work performed in the field meets minimum program quality control standards and can be validated.

- The initial QI efforts will focus on uncovering the root causes, rectifying design and implementation shortcomings, determine realistic energy savings estimates, and then launch program incentives.

The following non-incentive services will be offered through this sub-program:

- Active enrollment and promotion of qualified contractors (i.e., those who maintain a technician workforce with current Industry Competency Exam (ICE) and/or North American Technician Excellence (NATE) certification or similar proof of proficiency, such as AABC, NBI, NEBB, TABB, Refrigeration Service Engineers Society (RSES), HVAC Excellence, or state recognized Journeyman Mechanic certification).
- IOU promotion of QI through the Whole-Home Upgrade subprogram and other customer marketing.
- Contractor training on quality installation practices, selling and marketing QI, service management of QI, etc.
- If incentives are offered for energy savings and the measures are cost effective, the program will comply with Senate Bill 454 on HVAC permit acquisitions with the work completed by a licensed contractor.
- The program will retain appropriate combustion safety testing and other procedures to ensure customer safety.

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Information

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. The Commission gave each PPM a metric type which indicated the reporting frequency: Metric type 2a indicates that the IOUs should report on the metric on an annual basis (unless indicated otherwise). Metric type 2b indicates the IOUs should report on the metric at the end of the program cycle.

Below are the approved PPMs and metric types for the Quality Maintenance Program (Resolution E-4385, Appendix A, pp 35-36):

Table 3: Residential HVAC Quality Maintenance

Program	Metric	Metric Type
Residential Quality Maintenance	1. Measured progress towards specific milestones provided in the project GANTT chart indicating the development/finalization of this IOU program based on Quality Maintenance standards.	2a

Table 4: Residential HVAC Quality Installation Development

Program	Metric	Metric Type
Residential Quality Installation	1. Percentage of HVAC contracting companies that are participating in statewide residential QI program as a share of the targeted market*	2a

Development	* "Target market" defined as C20 licensed HVAC contracting companies in CA.	
	2. Average percentage of "certified" HVAC technicians within each contracting company that participates in the residential QI program.	2b

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment "H" are approved for this sub-program as applicable.

Market Transformation metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as "Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market."[2] The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies[3].

Market transformation programs differ from resource acquisition programs on
1) Objectives
2) Geographical
3) Temporal dimensions
4) Baselines
5) Performance metrics
6) Program delivery mechanisms
7) Target populations
8) Attribution of causal relationships
9) Market structures[4]. Markets are social institutions[5], and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains[6] as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market

[2] California Public Utilities Commission Decision, D.98-04-063, Appendix A.
[3] California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan,* p. 5. Available at http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf
[4] Peloza, J., and York, D. (1999). "Market Transformation: A Guide for Program Developers." Energy Center of Wisconsin. Available at: http://www.ecw.org/ecwresults/189-1.pdf
[5] Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) "From technology transfer to market transformation". Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at *http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/*
[6] Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

transformation progress[7]. According to York[8], "Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy."

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation[9]. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory[10], with the state of a market usually characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades[11]. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects[12]. The ability to make causal connections between these market transformation effects and any particular program's activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of

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[7] Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings.*

[8] York, D., (1999). "A Discussion and Critique of Market Transformation", Energy Center of Wisconsin. Available at http://www.ecw.org/ecwresults/186-1.pdf.

[9] Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). "Market Transformation: Substantial Progress from a Decade of Work." American Council for an Energy-Efficient Economy, Report Number A036. Available at: http://www.aceee.org/pubs/a036full.pdf

[10] Rogers (1995) Diffusion of Innovations, 5th Ed.

[11] Example in bottom chart of this graphic from the New York Times: http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html

[12] Sebold et al (2001) p. 6-5,

regulatory policy directions given to program designers.)"[13] The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts[14], but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions[15]. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers[16] suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

Historically, the nonresidential retrofit programs have had very low uptake rates on high-efficiency HVAC systems. Consequently, a first step towards market transformation is to do what it takes to achieve a high level of program participation, thereby increasing market share of high-efficiency equipment sales and quality installations. An initial increase in market share allows for increased levels of customer, installer, and distributor/manufacturer knowledge and interest in these systems, which should make further increases easier. In addition, tracking the ratio of certified HVAC technicians in the field, over time, can provide a gauge of the likelihood for quality installations and maintenance.

c) Program Design to Overcome Barriers

Residential HVAC Quality Maintenance and Residential HVAC Quality Installation Development

The program addresses the following barriers:
Recent data available from AHRI indicates that as a result of the 2006 increase in federal residential equipment efficiency standards, which increased equipment costs significantly, unitary equipment sales have dropped while repairs to existing systems (low efficiency compressor replacement) have increased nationwide by more than 25 percent and window unit sales have increased by a similar amount. A similar trend occurred in 2002 when ENERGY STAR® increased its qualifying efficiency level to Seasonal Energy Efficiency Rating (SEER) 13. Prior to the change, ENERGY STAR®

[13] Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1."* Available at http://calmac.org/publications/19981215CAD0001ME.PDF.
[14] CPUC (2008) Strategic Plan, p. 5.
[15] Nadel, Thorne, Saches, Prindle & Elliot (2003).
[16] Peloza & York, (1999).

Central Air Conditioner (CAC) sales had an average market share of 33 percent[17]. After the change, the average market share of ENERGY STAR® units fell to 7 percent. Additionally, recent studies indicate that 30 to 50 percent of existing systems have not been installed properly. Further, Title 24 compliance rates for replacement systems are approximately 10 percent[18]. The net effect of this market failure is a 20 to 30 percent increase in space energy use[19].

- Lack of awareness: By demonstrating the energy efficiency benefits of QI/QM, the benefits of QI/QM will be better understood by program participants. It is our goal to discover the evidence, and expected return on investment, that customers will require to authorize payment for these measures (and those premium measures that prove to outperform the QI/QM ANSI standards) when subsidies are removed.

- Performance uncertainties: Much research has been conducted on the energy savings achievable through HVAC system maintenance measures such as RCA and Duct Sealing, but despite all this research many performance uncertainties still exist. The implementation of this program with an increasing set of customers and the corresponding EM&V efforts shall be coordinated through the HVAC EM&V Project Coordination Group (PCG).

- Asymmetric Information: Delivering QI/QM training opportunities through existing industry channels (e.g., distributors, trade associations) will provide a higher level of credibility for QI/QM training rather than offering exclusively through IOUs.

- Bounded rationality: It is logical to assume that the HVAC industry would want to deliver quality service; however, market dynamics have not supported such logic as the industry has largely become commoditized and low price/low quality typically wins out. The program supports HVAC contractors that perform quality work. This helps to build momentum towards market transformation.

- Hidden costs: By promoting the concepts and value of quality maintenance at the time of system installation, the customer is assured that the energy efficiency performance benefits of their new system will continue throughout the life of their system.

- Organizational customs: The HVAC industry has largely become commoditized into an industry driven by low costs and quality, where quality is assumed but not understood or valued by the customer. This is a result, in part, by contractors having minimal success in communicating the value of QI/QM to consumers and consumers not understanding the linkages between comfort and energy use. The HVAC QI/QM Program demonstrates the value proposition of a high quality contracting business and educating consumers on the energy benefits of QI/QM.

[17] Itron, "California Residential Efficiency Market Share Tracking," 2006, pp.3-6.
[18] Quantec LLC, "Statewide Codes and Standards Market Adoption and Noncompliance Rates," pp. 4
[19] Strategic Plan, Appendix A, HVAC Convener Report, pp. 38-39

- Product cost: Substantial incentives for equipment and QI will offset a substantial percentage of product costs. Customers will be encouraged to participate in the program and use one of the qualified program contractors to install their new HVAC system.

- Lack of awareness: Focused marketing and training on QI and code compliance for consumers, contractors, and building inspectors[20] will ensure that the importance of complying with Title 24 will be better understood by program participants. Additionally, requiring demonstrated code compliance (e.g., CF-6R) in order to qualify for program rebates will further reinforce the importance of permitted installations.

- Information or search costs: Active support of qualified program contractors and listing them on IOU websites will increase consumer confidence in having a reliable source of quality contractors. Moreover, satisfied customers will recommend these contractors to friends and neighbors and thus create additional momentum for using contractors with a reputation for high-quality work.

- Transaction costs: Potential for streamlined incentive application processes that require the same information required for Title 24 compliance (e.g., CF-6R) will reduce the difficulty of participating in the program and complying with permit requirements. Furthermore, the high incentive levels offered by the program will reduce the likelihood that customers will choose not to participate in the QI activity.

- Hidden costs: Promoting the concepts of QI at the time of system installation will increase the likelihood that customers will understand the energy efficiency performance benefits resulting from maintenance, and will continue such periodic maintenance over the life of their system.

- Uncovering past issues: Contractors are often reluctant to offer QM services because the assessment identifies issues with the HVAC system that were created by the contractor in the past. These contractors are concerned that they will lose credibility with their customers by highlighting their previous errors. The QM program will work with these HVAC contractors to understand how to effectively communicate the issues discovered to their customer.

  Additionally, several other issues could potentially influence sub-program design, including:
    - Other organizations have established processes and procedures for QI. These processes should be evaluated to determine how well they perform in comparison to minimum QI standards.
    - Lack of industry consensus on QI standards and technical protocols
    - Overcoming market barriers to exceeding Title 24 Standards
    - Cost-effective constraints arising from limited savings for QI measures exceeding Title 24.
    - Forging sustainable HVAC industry and market actor support.

[20] See the HVAC WE&T Sub-program PIP, below, for more information.

- Addressing challenges in standard applicability across a range of commercial building types and HVAC systems.
- True energy savings measurement procedures.

d) Quantitative Program Targets

The program will achieve the following program targets:
See Table 5 above.

e) Advancing Strategic Plan goals and objectives

The Residential HVAC Quality Maintenance and Residential HVAC Quality Installation Development program helps to achieve the following near-term strategic goals as identified in Chapter 6 of the Strategic Plan:

- 2-1: Create a Statewide QI/QM Brand – In addition to promoting the industry standards for QI and QM, leveraging the program statewide Energy Upgrade California (EUC) brand for all IDSM efforts is a cost effective approach to branding QI/QM. In order to help residential consumers more clearly recognize contractors and technicians who can truly deliver QI/QM, the program also aggressively helps the HVAC industry to more firmly establish the higher value/consumer benefit of its own industry standards and credentials. This program is based on and promotes the use of ACCA Standard 4 for Quality Maintenance and examples of consensus HVAC credentials are the Industry Competency Exam (ICE), technician certification by North American Technician Excellence (NATE), a variety of union "Journeyman" designations, TABB, NEBB, AABC, NBC and UA STAR, Refrigeration Service Engineers Society (RSES), and HVAC Excellence certifications.

- 2-2: Launch Statewide Brand – The Energy Upgrade California IDSM umbrella brand will be expanded via the statewide ME&O program efforts and the Residential HVAC QM program will make corresponding adjustments accordingly to leverage that brand within a reasonable time during 2013-14. This branding activity will help participating contractors to promote the QI/QM effort. The program will continue to communicate information about the QI/QM branding effort to contractors, technicians and other HVAC industry stakeholders via such means as inserts in trade journals such as Indoor Comfort News, The ACHR News, and Contracting Business.

- 2-3: Provide expanded QI/QM training – The program continues to ensure that HVAC service technicians of participating contractors are fully trained on the delivery of the measures promoted by the Program. Furthermore, feedback mechanisms will be utilized to continually evaluate technician performance to ensure that they are applying the information they are being taught in the QI/QM training. As part of the program's market transformation efforts and to ensure quality services are provided to customers, the program will continue to work with the HVAC industry

to reduce (and wherever possible eliminate) the direct costs of this transformative training to technicians and contractors willing and able to apply their skills and new tools to delivering industry standard and energy saving Quality Maintenance services.

- 2-4: Implement contractor accreditation program – Additional consideration will be made for program efforts to promote NATE and any other certifications that the consensus of the HVAC industry determines to be appropriate.

- 3-3: Accelerate whole-building educational opportunities - Create pathways for HVAC contractors to evolve into whole building contractors by partnering with private and public community colleges and/or universities to develop the appropriate curriculum on whole building design practices.

- 4-1: Pursue regional climate-optimized equipment standards - IOU staff, in close consultation with WCEC/CEC and other appropriate parties, will continue to stay attentive to and engaged in the federal proceeding as it continues into 2011

- 4-3: Accelerate market penetration of advanced technologies - Partnering with manufacturers through activities such as the WCEC's Western Cooling Challenge will increase their dedication to developing climate-appropriate equipment that delivers energy savings and peak load reduction.

- 4-4: Adopt a progressive set of building codes that support peak-efficient equipment - Through the efforts proposed by the Statewide Codes and Standards Program, the IOUs will continue to work with the CEC to advance current building codes.

- 4-5: Develop standards for on-board diagnostic functionality – In coordination with HVAC efforts within the Emerging Technologies program, the program leverages the use of hand held and other types of systems in the field to assist in determining viable protocols for residential applications.

- 4-6: Prioritize in-field diagnostic approaches – Through coordination with the Emerging Technologies program, the program leverages the use of hand held and other types of systems in the field to assist in determining viable protocols for residential applications and contributes information to the HVAC industry that is expected to be helpful in targeting future efforts based on quantifiable energy efficiency benefits.

6) **Program Implementation**

Statewide IOU Coordination

i. Program delivery mechanisms

Residential Quality Maintenance
The program is delivered to customers via qualified participating contractors. Training of participating contractors and management of the program includes a combination of third-party implementers and internal administrative staff. This follows the adaptive management process. The program is targeted to consumers and contractors to create a push/pull dynamic that influences the achievement over time of sustained market transformation.

Residential Quality Installation Development
The IOUs will jointly coordinate and work with industry groups to prepare a design for a statewide-consistent program design that is cost effective and meets California's market transformation objectives.

After the new program design is launched, the IOUs will manage the program through a combination of third-party programs and internal administrative staff, and will follow the adaptive management process. The program will be targeted to consumers and contractors to create a push/pull dynamic that influences sustained market changes.

ii. Incentive levels
See Section 4.b above.

iii. Marketing and outreach plans
Residential Quality Maintenance
Program marketing includes common outreach materials shall be developed in partnership with HVAC industry, including feedback from HVAC contractors. This QI/QM branding shall be under the statewide Energy Upgrade California brand efforts after the expansion of that brand. The program will continue to work with industry and participating contractors for additional methods to promote the program and the value of QM. If warranted by such feedback, the program may explore providing additional point-of-purchase information on QM that would be made available for equipment dealer locations and building departments (where residential customers may be receptive to "neutral" public service messages).

Residential Quality Installation Development
Common outreach materials will only be available to participating contractors. Additional point-of-sale information on QI will be made available for equipment dealer locations and building departments.

Residential Quality Maintenance
One of the strategies outlined in the Strategic Plan HVAC chapter is to create a better linkage between the CEC's Title 24 compliance efforts with the IOUs energy efficiency programs. Previous efforts have been managed with different yet consistent purposes. The IOU's will continue the market transformation goals of the Strategic Plan; the IOUs will support CEC and CPUC efforts to develop one common effort.

As a result of increased federal equipment efficiency standards, many utilities across the country have begun to offer service-based programs that independently offer measures such as RCA and Duct Sealing. It is expected that the HVAC QM Program could stimulate a paradigm shift through its delivery of a comprehensive suite of maintenance services that comply with or exceed ACCA industry standards (premium maintenance) designed to address the full range of efficiency measures available for residential HVAC systems.

Residential Quality Installation Development
The ENERGY STAR® Residential QI program was introduced in early 2008. Several utilities, including Oncor, National Grid, Nstar, and Puget Sound Energy, are either offering or planning to offer this program. Both PG&E and SCE piloted the program in 2006 and 2007 respectively, and the program continued in SCE's territory from 2009 to 2012. SDG&E launched the program in 2010. Such program design, however, was found to be non cost ineffective, prompting a need to arrive at a new program design that can be cost effective and meet market transformation objectives at the same time. In order to promote the holistic approach proposed herein, the California IOUs propose to initiate a Statewide IOU/POU coordinating group — perhaps under the auspices of CEE or some other umbrella organization — to discuss and implement HVAC program best practices that advance the goals of the Strategic Plan throughout California.

a) Program delivery and coordination

The program will be coordinated with the following activities:

- Emerging Technologies program

Residential Quality Maintenance
The Residential HVAC QM Program is expected to interact with the ET Program to ensure the proper focus on remote and on-board diagnostic equipment. Coordination activities will be realized through the Program ongoing statewide coordination among programs and across IOUs.

Residential Quality Installation Development
N/A (this program does not seek to influence emerging technologies).

Residential Quality Maintenance
This service-based program is not much affected or regulated by building codes, except in the possible case of a participating contractor installs 40 or more feet of new ducting as part of the Advanced Air Flow Correction measure. Program to help support proper permit compliance, the program requires the reporting of any applicable permit number in such cases or any other case that may require a permit as a result of work performed through the program. Additionally, to further support proper compliance with all permitting and licensing requirements, the program requires that both the customer and the contractor certify that all permitting and

licensing requirements were followed before any program incentives would be paid.

Residential Quality Installation Development
Efforts will be coordinated to ensure that a consistent message is delivered regarding code compliance and QI. Codes and Standards will take the lead on compliance items, while the Residential Quality Installation Development will take the lead on QI efforts but will leverage similar delivery channels to increase effectiveness. Additionally, coordination activities will be realized through the Joint IOU Program Management Team.

- WE&T efforts

Residential Quality Maintenance
Participating contractors are required to attend program-specific QM training in order to participate in the program.

Technical training will be provided through theoretical online and classroom training, as well as practical in-field training. Technicians typically require multiple in-field training and ride-along sessions before reaching preparedness for the program. There will be ongoing mentoring of technicians in the field to address implementation issues. Operational QM training will be delivered to the contractor's management and administrative groups to translate the QM requirements into real-world business operation. Sales training will be provided via classroom and in-field delivery tailored to various groups within each business including field technicians, service management, customer service, and ownership.

Residential Quality Installation Development
Participating contractors are required to attend program-specific QI training in order to participate in the program.

Residential Quality Maintenance and Residential Quality Installation Development
Utility-branded marketing support for participating contractors is provided to advance statewide QM efforts. Such support may include exclusive promotion on IOU websites, brochures and other leave-behind materials that contractors can use to promote QM and their involvement with the program. As mentioned above, the program will continue to work with industry and participating contractors for additional methods to promote the program and the value of QM, and if warranted by such feedback, the program may explore providing additional general promotional materials such as point-of-purchase displays for equipment dealers. There will be cross-promotion of the services with other IOU programs. Supporting statewide Energy Upgrade California efforts will be offered via the statewide ME&O program. (Specific IOU budget information for program-specific marketing activity is provided in Table 1)

Residential Quality Maintenance
The direct energy benefits of the program result from the quality maintenance of HVAC systems. Other activities will be required to support these energy savings goals, as well as the program's market transformation goals. These activities include significant efforts in program design, systems development, contractor training and consumer marketing. Additionally, some incentive measures within the program, such as the QM-standard Basic Assessment and QM-standard optional Preventive Maintenance Service Agreement, have been specifically designed to support market transformation. Finally, by implementing combustion appliance safety evaluation and testing, the program improves customer health and safety.

Residential Quality Installation Development
The direct energy benefits of the program result from the quality installation of central air conditioning systems. Other activities will be required to support these energy savings goals. These activities include significant efforts in contractor training and consumer marketing.

Residential Quality Maintenance
The program interacts with the HVAC industry to continue to develop and introduce increasingly stronger QM standards that ensure systems are operating in their most efficient state.

Residential Quality Installation Development
Collaboration with local programs will synergize the program delivery.

- CEC work on EPIC

Residential Quality Maintenance
The program continues to coordinate with the ET Program to ensure the proper focus on remote and on-board diagnostic equipment program

Residential Quality Installation Development
N/A (this program does not seek to influence emerging technologies.)

- CEC work on codes and standards

Residential Quality Maintenance
The responsibility for HVAC codes and standards issues has been given to the Statewide Codes and Standards Program. This will ensure that the code-based solutions are consistent with that program's other activities. Section 6 of the Codes and Standards PIP describes the specific actions that the program will employ to address HVAC. HVAC, Codes and Standards, and Emerging Technologies activities will be coordinated through the Joint Program Management Team.

Residential Quality Installation Development
In a similar manner as with the Codes and Standards Program, the Residential QI Program will work in cooperation with CEC training and compliance efforts targeted at local building departments. The Codes and Standards Program will take the lead on this effort.[21]

- Non-utility market initiatives

Residential Quality Maintenance
The tenets of QM are being actively pursued by the HVAC industry itself. ACCA has taken the lead in this national effort by developing various ANSI recognized QM standards. These standards have been widely adopted throughout the industry (e.g., AHRI, ASHRAE, CEE, ENERGY STAR, Utilities). Other organizations have also developed processes designed to improve the operating efficiency of HVAC systems (e.g., NCI). The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

Residential Quality Installation Development
The tenets of QI are being actively pursued through the HVAC industry. The Air Conditioning Contractors of America (ACCA) has taken the lead in this national effort by developing various ANSI recognized QI standards. These standards have been widely adopted throughout the industry (e.g., AHRI, ASHRAE, CEE, ENERGY STAR®, utilities, etc.) The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

b) **Best Practices**
As described in Section 5.a, the IOUs had been managing RCA and Duct Sealing programs for several years and have seen that the results they delivered were uncertain. This Program has created a new standard for HVAC service-based programs through offering a more comprehensive approach that delivers reliable energy savings. This program was developed with full industry involvement to ensure that it (1) is accepted by the industry, to ensure it meets its market transformation objectives program; (2) effectively trains service technicians to provide QM services; (3) provides the necessary quality control processes to ensure that the appropriate service measures are performed; (4) delivers reliable energy savings; and (5) demonstrates a clear value proposition for contractors and customers.

c) **Innovation**
The innovation of this program exists through the adoption of a comprehensive maintenance approach based on industry-accepted standards. Traditional utility

[21] For additional information about Codes and Standards HVAC activities, see Section 6 of the Codes and Standards PIP.

programs have delivered individual service measures such as RCA and Duct Sealing. The delivery of these measures has generated questions about their energy savings. A more comprehensive maintenance effort through this Residential HVAC QM program delivers well-documented energy savings and sets the standard for HVAC efficiency programs. Furthermore, delivering this program through active partnership with the industry increases the likelihood of its success. Finally, innovation results through a continuous improvement process to evaluate the viability of offering additional incentives for services and other offerings that exceed established program standards (e.g., TABB, NEBB, and NCI).

d) **Integrated/coordinated Demand Side Management**

As with most HVAC oriented programs, the primary source of integration exists between energy efficiency and demand response activities. At a minimum, all marketing materials developed to support QM will cross promote DR to educate customers on the availability of IOU DR Programs. The required contractor training will be designed to include a discussion on DR programs and participating contractors will be required to deliver DR information as part of their customer sales efforts. The program will continue to explore closer linkages between EE and DR.

e) **Integration across resource types**

The program may support CARB's efforts to regulate GHGs by providing consumer information on the phase-out of existing refrigerants and the move to zero-ODP refrigerants with the customer's maintenance invoice. Such information would seek to influence the customer's adoption of newer equipment by explaining the likelihood of increased maintenance costs as existing refrigerants become less available.

f) **Pilots**

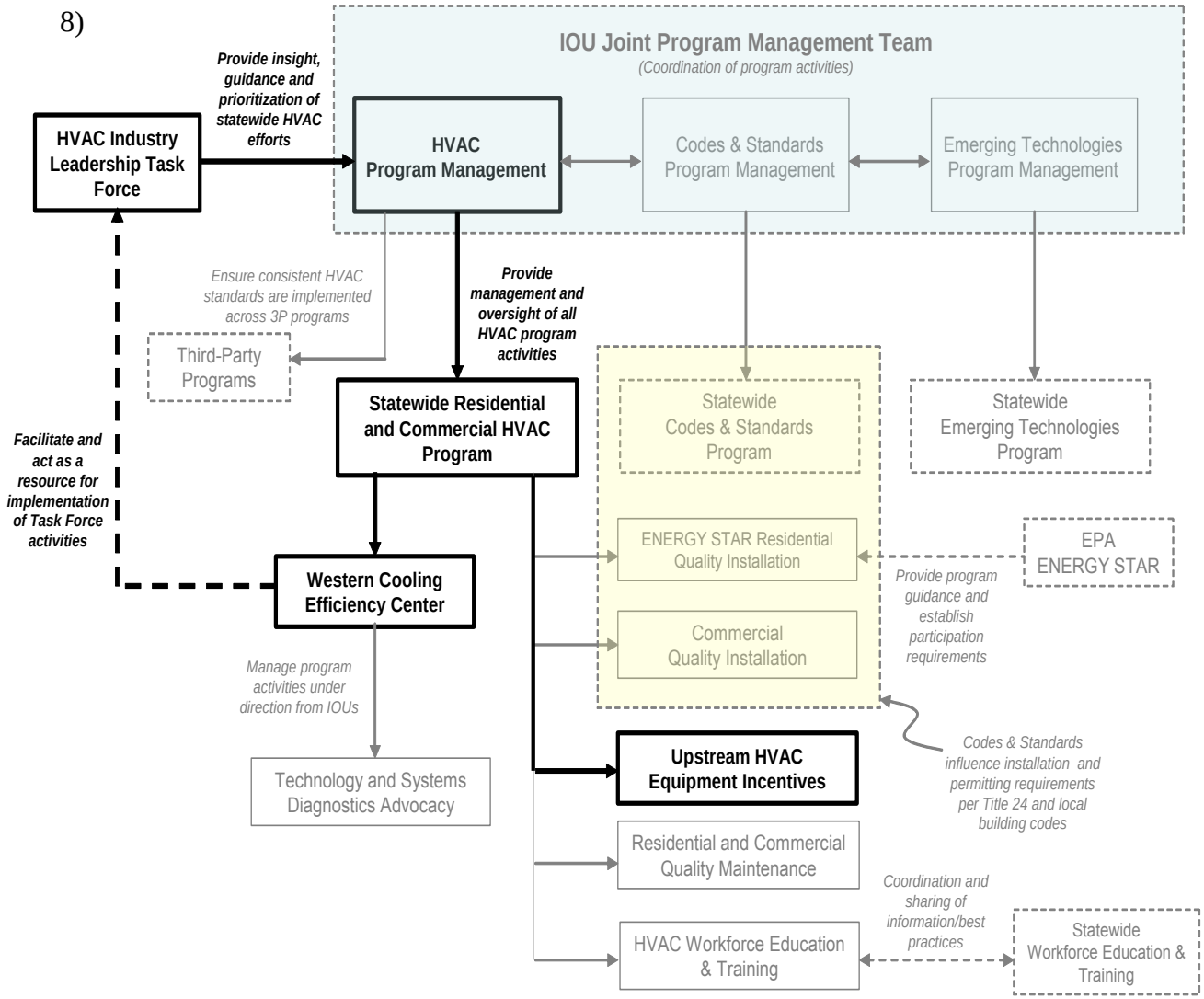
As with any good product/program design, pilots may be needed to test program enhancement concepts prior to full-scale launch of any enhancement. The HVAC QM Program may utilize pilots to test the implementation of program concepts, processes and the integration of ever increasing QM standards.

g) **EM&V**

EM&V for the Residential HVAC program will be managed via the EM&V program. Appropriate EM&V activities and detailed plans will be conducted as coordinated by the HVAC EM&V Project Coordination Group (PCG) and overseen by the CPUC.

7) **Diagram of Program**

8)



Program Logic Model:

Note: On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas & Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs.

Market Transformation Information

a) Summary of the market transformation objectives of the program:

The Residential HVAC Program is a statewide program that will continue the transformation process of California's HVAC market to ensure that:

- HVAC technology, equipment, installation, and maintenance are of the highest quality;
- Quality installation and maintenance practices are easily recognized and requested by customers;
- The HVAC value chain is educated and understands their involvement with energy efficiency and peak load reduction; and
- The above changes lead to sustained profitability for HVAC trade allies as the business model for installing and maintaining heating and cooling systems changes from a commodity-based to a value-added service business.

Description of the market, including identification of the relevant market actors and the relationships among them:
The Residential HVAC market for maintenance and installation is largely a market designed to offer these services at the lowest price to meet acute needs, rather than one with product differentiation by quality that is designed to meet the long-term needs of customers in terms of thermal comfort, indoor air quality, and thermal comfort.

The primary market actors are contractors, technicians, and property owners/managers. Contractors manage the firms that provide installation and maintenance. They set the direction for their firms in terms of what services to provide, how to provide them, and how to price them. Technicians actually provide those services. Thus the successful provision of the services depends on the technicians' skill levels as well as how they respond to the constraints imposed on them by contractors. Property owners and managers constitute the demand side of the market. They request and pay for the services provided by the contractors' firms. Renters do not tend to participate in this market.

b) Market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies:
Property owners and managers often lack important information about the cost and value implications of their HVAC decisions, as well about the quality of the work that contractors' firms can perform. That is, there are not clear indicators of quality by which consumers can judge providers, and consumers do not have a well-defined set of goals by which to evaluate the quality of work after the fact. This facilitates a

commoditization of HVAC services whereby firms compete based on price and not on quality, which can lead to a "race to the bottom" mentality in certain segments of the market. This lack of information is exacerbated by the highly technical nature of HVAC maintenance and installation that can confound the efforts of contractors and technicians who are attempting to do high quality work, leading to sub-optimal HVAC system performance in terms of thermal comfort, indoor air quality, and energy efficiency.

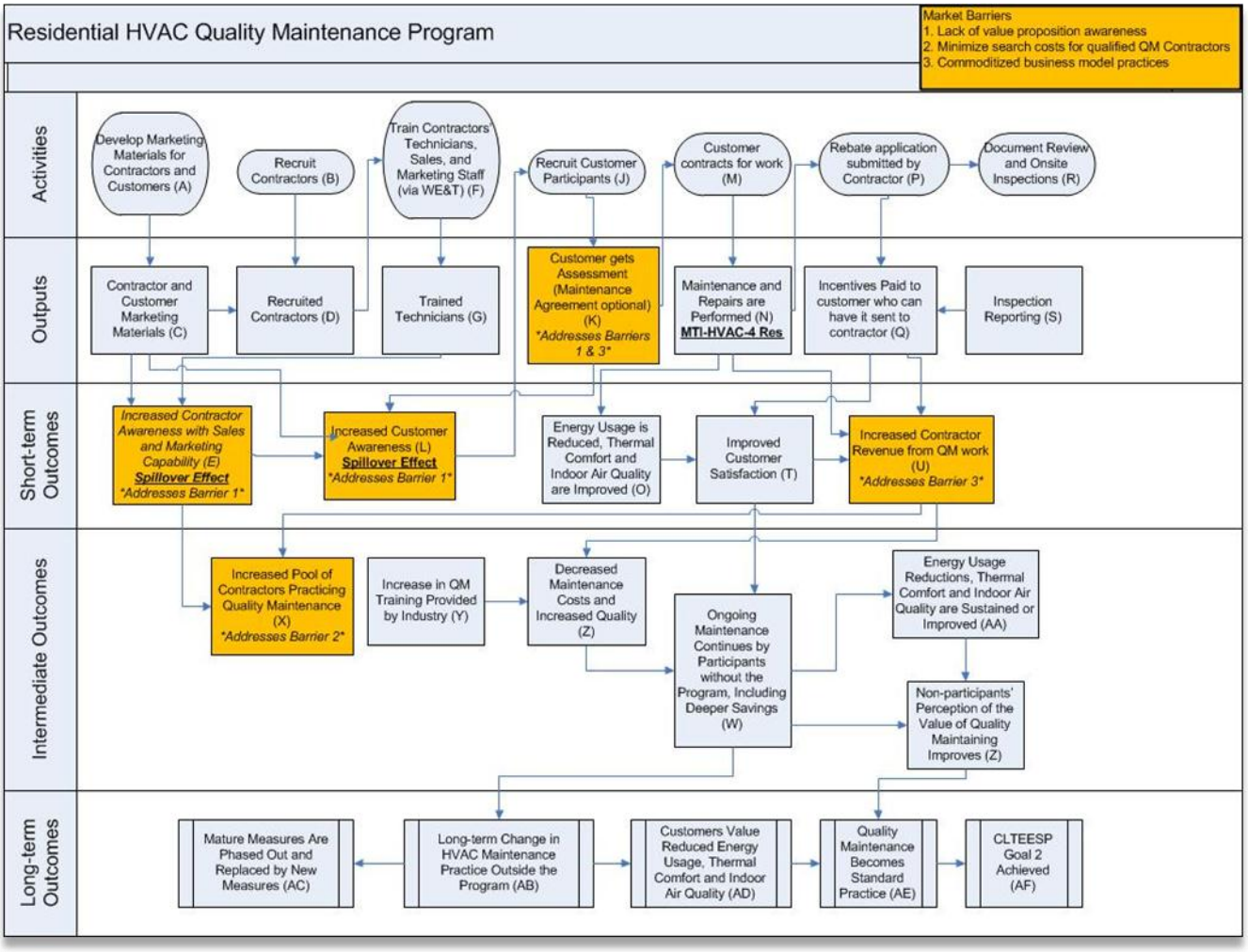
These barriers provide an important opportunity for energy efficiency programs to intervene in the market in a number of ways to facilitate high-quality work. The first is providing a definition of quality through the promotion of standards for installation and maintenance. Second is facilitating a business relationship between contractors and customers to promote high quality, and not just low price. Third, the program can build the skills of technicians who perform maintenance and installation so they are able to implement those services at a high level of quality.

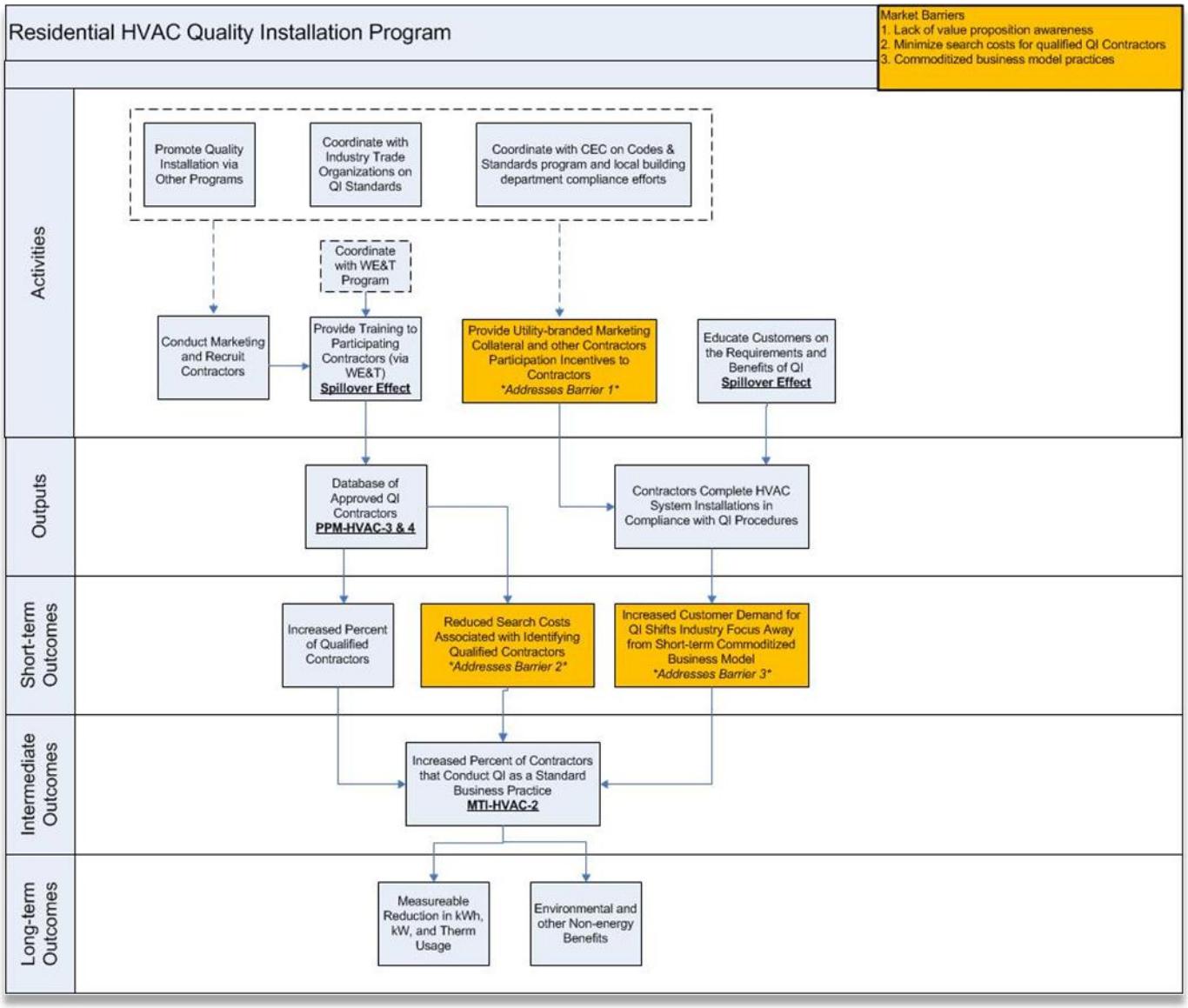
Description of the proposed intervention(s) and its/their intended results, including which barriers the intervention is intended to address:

By promoting industry standards for maintenance and installation, the program helps consumers know what the characteristics of a good contractor are. For maintenance, part of this standard is leads the customer and the contractor to define performance guidelines for thermal comfort, indoor air quality, and energy efficiency, helping make clear what the level of quality of work was after the fact. For installation, the standards provide clear performance characteristics through such elements as load calculations. The programs facilitate the creation of an ongoing business relationship between the contractor and the customer. This provides an inducement to the contractors' firms to provide a high-quality service that will bring long-term value to the customer, and thus long-term value to the contractor, rather than rely on winning bids with a lowest price under the assumption that there would be no more business dealings with a customer and so high quality would bring a low return.

Finally, the programs build the skills of technicians. This enables continuing improvement in the quality of work over time. It also provides for spillover as those contractors and technicians can provide higher quality service to their customers even outside the program to reduce energy usage.

Program or market logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results:


Residential HVAC Quality Maintenance Program
Market Barriers
1. Lack of value proposition awareness
2. Minimize search costs for qualified QM Contractors
3. Commoditized business model practices
Activities
Develop Marketing Materials for Contractors and Customers (A)
Recruit Contractors (B)
Train Contractors' Technicians, Sales, and Marketing Staff (via WE&T) (F)
Recruit Customer Participants (J)
Customer contracts for work (M)
Rebate application submitted by Contractor (P)
Document Review and Onsite Inspections (R)
Outputs
Contractor and Customer Marketing Materials (C)
Recruited Contractors (D)
Trained Technicians (G)
Customer gets Assessment (Maintenance Agreement optional) (K)
Addresses Barriers 1 & 3
Maintenance and Repairs are Performed (N)
MTI-HVAC-4 Res
Incentives Paid to customer who can have it sent to contractor (Q)
Inspection Reporting (S)
Short-term Outcomes
Increased Contractor Awareness with Sales and Marketing Capability (E)
Spillover Effect
Addresses Barrier 1
Increased Customer Awareness (L)
Spillover Effect
Addresses Barrier 1
Energy Usage is Reduced, Thermal Comfort and Indoor Air Quality are Improved (O)
Improved Customer Satisfaction (T)
Increased Contractor Revenue from QM work (U)
Addresses Barrier 3
Intermediate Outcomes
Increased Pool of Contractors Practicing Quality Maintenance (X)
Addresses Barrier 2
Increase in QM Training Provided by Industry (Y)
Decreased Maintenance Costs and Increased Quality (Z)
Ongoing Maintenance Continues by Participants without the Program, Including Deeper Savings (W)
Energy Usage Reductions, Thermal Comfort and Indoor Air Quality are Sustained or Improved (AA)
Non-participants' Perception of the Value of Quality Maintaining Improves (Z)
Long-term Outcomes
Mature Measures Are Phased Out and Replaced by New Measures (AC)
Long-term Change in HVAC Maintenance Practice Outside the Program (AB)
Customers Value Reduced Energy Usage, Thermal Comfort and Indoor Air Quality (AD)
Quality Maintenance Becomes Standard Practice (AE)
CLTEESP Goal 2 Achieved (AF)


Residential HVAC Quality Installation Program
Market Barriers
1. Lack of value proposition awareness
2. Minimize search costs for qualified QI Contractors
3. Commoditized business model practices
Activities
Promote Quality Installation via Other Programs
Coordinate with Industry Trade Organizations on QI Standards
Coordinate with CEC on Codes & Standards program and local building department compliance efforts
Coordinate with WE&T Program
Conduct Marketing and Recruit Contractors
Provide Training to Participating Contractors (via WE&T)
Spillover Effect
Provide Utility-branded Marketing Collateral and other Contractors Participation Incentives to Contractors
Addresses Barrier 1
Educate Customers on the Requirements and Benefits of QI
Spillover Effect
Outputs
Database of Approved QI Contractors
PPM-HVAC-3 & 4
Contractors Complete HVAC System Installations in Compliance with QI Procedures
Short-term Outcomes
Increased Percent of Qualified Contractors
Reduced Search Costs Associated with Identifying Qualified Contractors
Addresses Barrier 2
Increased Customer Demand for QI Shifts Industry Focus Away from Short-term Commoditized Business Model
Addresses Barrier 3
Intermediate Outcomes
Increased Percent of Contractors that Conduct QI as a Standard Business Practice
MTI-HVAC-2
Long-term Outcomes
Measureable Reduction in kWh, kW, and Therm Usage
Environmental and other Non-energy Benefits

2013-2014 PIP Addendum

Program Name	Comprehensive Industrial Energy Efficiency Program	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** Comprehensive Industrial Energy Efficiency
Program ID Number:
SDG&E Program Type: Third-Party Program

2) **Projected Program Budget Table**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3230	SW-IND-Customer Services-Audits CIEEP	$6,950	$500	$787,896	$0	$795,346

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3230	SW-IND-Customer Services-Audits CIEEP	0	0	0

This is a non-resource program. The savings listed in Table 2 are for tracking and compensation purposes only. To reduce the administrative burden and prevent double-counting, savings achieved as a result of this program will be reported to the CPUC under COMPANY's other EE programs.

4) Program Description

a) Describe program

This third party program will help facilitate SDG&E's implementation of the Statewide Industrial Program, Customer Services Subprogram.

San Diego Gas & Electric (SDG&E) will continue the momentum established under its 2008 Investment Grade Audit Pilot Program with industrial customers to implement cost-effective energy efficiency projects directly with customers in the industrial market segment in Company's service territory. The program will develop and implement energy efficiency projects with a focus on both demand reduction and energy efficiency. The program will concentrate primarily on the following technologies:

- Heating, Ventilating, and Air Conditioning (HVAC) upgrades,
- Controls upgrades,
- Process electricity and gas efficiency,
- Lighting retrofits involving new T-5 and T-8 fluorescent fixtures and associated lighting controls (occupancy sensors),
- Compressed Air System Optimization,
- Process chilled water optimization,
- Process Gas Efficiency including Boiler Economizers, Condensate Return and Cold Isostatic Press (CIP) Optimization; and

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

- Variable Frequency Drives on Process Pumps and Fans.

The program scope and objective will include an operational savings and continuous improvement component called Monitoring and Targeting (M&T) services. This service is offered to establish information processes and tools to provide industry benchmarking, correlation of utility use to production levels, and continuous improvements (energy use reductions) in energy efficiency in industrial facilities. Key elements of the program's M&T services will include:

- Measurement of utility consumption to discrete levels of usage (sub-metering),
- Comparing consumption against a calculated target (baseline), varying by production through-put (kWh per unit of production),
- Regular weekly reporting of daily or shift data with variances from targets,
- Enabling front-line, operating personnel to act on variances,
- Establishing long-term targets for "best practices" operations and maintenance procedures,
- Sustaining improvement processes through developing:
  a. organizational design and relationships,
  b. skills and training programs; and
  c. management commitment and communications needed to effectively capture and sustain potential energy savings.

Implementation

A key element to the successful performance of the proposed Comprehensive Industrial Energy Efficiency Program is for the program staff to develop an informed, cooperative and trusted business and working relationship network with the Company Account Representatives to identify and develop eligible customers. Individual and group meetings with account representatives will be conducted in order to communicate, plan and agree to the proposed program's method of approach to each account representative's qualified customers.

The Program's approach must be qualified, planned and driven by the end-use customer's individual organizational profile including consideration of their:

- Management and decision-making structure, including capital allocation procedures
- Energy consumption and profile
- Interest in energy cost savings and their ability to invest in energy projects or willingness to consider project financing

The customer's profile will. be evaluated by and between the Account Representatives and the program's business development staff to qualify each customer and their potential to commit to the development of energy efficiency projects to meet targeted energy and demand reduction goals. The careful evaluation and qualification of end-use customer's energy efficiency opportunities based upon a customer profile criteria is a strategic component to successfully meet and exceed kWh, kW and therm reduction goals and to maximize the cost effectiveness of the program.

As Program Contractor, Contractor's roles and responsibilities will be comprehensive, from initial contact through to implementation and verification of savings, including:

- The 2013 - 2014 Program will have Contractor working with a large set of Industrial and other identified large customers and projects already known by Contractor, as a result of the existing Company 2008 Investment Grade Audit Pilot Program. Contractor will expand the existing relationships with many of these customers and account managers working with them as pre-qualified customers, and identify new prospects through various means (other utility account managers, vendor networking, etc.)
- Contractor will make personal contact with potential customers through their Company Account Manager and describe in detail the benefits of facility assessment and the Company Program.
- Contractor will design, develop and distribute marketing and outreach materials within the Company Target Market including industrial and/or other large end customers.
- Contractor will approach customers by a series of steps: through the Company Account Managers and Contractor's vendor/subcontractor network, telephone follow-up to set appointments and personal visits to the customer facility. Contractor will also participate in local industry conferences and other trade events to develop relationships, promote the program and to introduce the Program to potential new customers.
- Once customers express an interest in the Program, Contractor will then conduct a comprehensive assessment to estimate the potential costs and benefits to the customer, will recommend equipment, installation of equipment and M&T/Continuous Improvement processes that will save energy and accomplish the customer's participation objectives.
- Contractor will then make a presentation to the owner (including project scope, costs and financial pro-forma) and offer a project that will provide acceptable financial benefits to the customer.
- The offering will include an incentive that represents a portion of the incremental cost to install the energy efficient equipment (incentives will be at the same level as Company's core programs).
- The owner and Contractor will modify and negotiate scope and other project details, followed by the owner's commitment to proceed with the project.
- The project will be installed by Contractor or the owner.
- The project will be inspected, as required, and savings documented (including M&V if required).
- The incentive will be invoiced to Company.
- The incentive will be paid to customer.

The most effective path to the program goals and results is through marketing distribution efforts that directly reach end-use customers at a targeted level engaging Company Account Managers and Contractor's network of subcontractors and vendors. Utilizing these contacts as marketing channels also lends reliability and knowledge of the customer to the marketing effort. This delivery method ensures a much greater probability of reaching targeted success from exposure to and an effective understanding of the program.

b) List measures

Measure Mix	kWh	kW	Therms	Incentive ($)

M&T - Continuous Improvement Process Operational Efficiency Improvements	2,460,000	243	230,400	$300,000
Process Gas Efficiency - Boiler Economizer	-	-	164,400	$131,520
Process Gas Efficiency - Regenerative Oxidizer	-	-	782,500	$626,000
Process Efficiency Improvements	43,770	-	1,991	$7,500
Other Mechanical VFDs, Fans, Pumps, Motors	4,188,420	540	-	$218,565
High Bay Fluorescent Fixtures	10,993,500	1,255	-	$549,675
High Bay Fluorescent Fixtures Occupancy Sensors	1,036,000	-	-	$51,800
Comprehensive Compressed Air Retrofit	11,035,500	651	-	$882,840
Total	29,757,190	2,689	1,179,291	$2,767,900

c) List non-incentive customer services

The program provides comprehensive, facility-wide audits for industrial customers of Company. While energy efficiency measures that are derived from the audits may yield utility incentives, the audits themselves consist of non-incentive services.

During comprehensive audits, customer opportunities for demand response, renewable generation, combined heat and power, and green house gas emissions reduction are all discussed with the industrial customer. Consulting in these areas is also a non-incentive service.

Contractor also provides project implementation services in the form of general contracting or construction management services. These services are offered to the industrial customer under a standard commercial agreement and are not covered under utility incentives.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information This section is not applicable.
b) Market Transformation Information This section is not applicable.

c) Program Design to Overcome Barriers

Historically, utility programs have, by various means, provided energy efficiency audits of industrial customer facilities that lack the depth and detail upon which sophisticated industrial customers can make informed technical and investment decisions that meet the requirements for corporate approval and project implementation.

Facility owners are interested in increasing or maintaining the value of their companies, reducing operating costs and facility downtime associated with facility maintenance, reducing the energy costs, being seen in the market as a provider of high-quality products and services, and being perceived as an environmentally responsible company. This results in a market opportunity for a program to offer services that make it economically attractive for owners to achieve their overall corporate goals while reducing energy demand and consumption at the same time.

Customer and market barriers toward energy efficiency are common across many industrial market segments. The barriers to navigating the customer decision-making

process, customer capital allocation, limited customer resources (for evaluation and implementation) and a lack of knowledge regarding the effective ability to buy down energy saving projects with applicable utility incentives are all present in industrial market segments.

This program involves a comprehensive energy project focus including delivery of a specific action plan that identifies investment grade detail, including specific cost estimates for each energy efficiency measure, the calculated energy savings for each measure, the quantified utility financial incentive allocation, and the return on investment analysis, needed by industrial customers to navigate their organization's capital approval processes.

The program will address the common issues in the industrial market segment and offer the program as a solution to these challenges. The program will discuss with the customer at or prior to the first meeting, the need for a financial level decision maker in the development process and will discuss customer internal investment thresholds and explore their capital allocation processes and how energy efficiency might best be funded. The program itself will be offered as a solution to having limited resources (for evaluation and implementation) and most importantly, the program will estimate and show the customer how the utility incentive substantially contributes to their energy project investment. The customer and market barriers are best navigated upfront by communicating and showing the customer that the program is the solution toward overcoming perceived customer and market barriers.

d) Quantitative Program Targets

Table 5

Comprehensive Industrial Energy Efficiency	Program Target by 2013	Program Target by 2014
Facilities Audited	8 large industrial customers	12 large industrial customers

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

This program supports the Strategic Plan in the following manner:

- Offers a customized package of integrated products to enhance the potential energy savings and penetration rate (4. Industrial Sector, Strategy 1.1)
- Includes recommendations that integrate the full range of EE and DSM options (8. DSM Coordination and Integration, Strategy 1.3)

6) Program Implementation

a. Statewide IOU Coordination:
   i. Program name
   ii. Program delivery mechanisms
   iii. Incentive levels
   iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

i. Emerging Technologies program

Not applicable to this program.

ii. Codes and Standards program

Not applicable to this program.

iii. WE&T efforts

Not applicable to this program.

iv. Local marketing and outreach efforts (provide budget)

The program marketing/outreach budget is $240,000. Marketing and outreach activities will include:

- Contractor working with a large set of Industrial and other identified large customers and projects already known by Contractor, as a result of Company's 2008 Investment Grade Audit Pilot Program. Contractor will expand the existing relationships with many of these customers and account managers working with them as pre-qualified customers, and identify new prospects through various means (other utility account managers, vendor networking, etc.)
- Contractor will make personal contact with potential customers through their Company Account Manager and describe in detail the benefits of facility assessment and the Company Program.
- Contractor will design, develop and distribute marketing and outreach materials within the Company Target Market including industrial and/or other large end customers.
- Contractor will approach customers by a series of steps: through the Company Account Managers and its vendor/subcontractor network, telephone follow-up to set appointments and personal visits to the customer facility. Contractor will also participate in local industry conferences and other trade events to develop relationships, promote the program and to introduce the Program to potential new customers.

v. Non-energy activities of program

Non-energy activities will include the development and installation of turn-key projects (with costs of development and implementation outside of this program).

Identification of green house gas emissions reductions is an important non-energy component of the program.

vi. Non-IOU programs
This proposed industrial Program by its comprehensive design and independent contractor/holistic approach is able to incorporate unlimited opportunity in order to maximize energy use optimization and trends brought on by market focus. A big factor in this ability to incorporate opportunities is the ability to satisfy the industrial customer's requirements to manage energy costs and to prepare to report climate change actions.

Effectively promoted energy efficiency should fit as the resource of first choice for meeting California's energy needs. Energy efficiency is the least cost, most reliable and most environmentally sensitive resource and minimizes contribution to climate change. These are the trends and initiatives of today and the future that will be addressed by this program.

The proposed Program also addresses concerns of the industrial market segment in what appears to be difficult economic times in the near term. Industrial facilities are being taxed even more to maximize efficiency in all phases of their operations. Energy efficiency is an excellent opportunity to contribute to overall efficient operations and help these companies survive the current economic climate.

vii. CEC work on PIER
Not applicable to this program.

viii. CEC work on codes and standards
Not applicable to this program.

ix. Non-utility market initiatives
Not applicable to this program

c. Best Practices:

The program design incorporates various best practice elements. Specific items include:

- Close coordination with Company personnel,
- Working as a team with the industrial customers,
- Working with specialists in technologies (such as compressed air), who are actively involved with developing best practices in their field, as subcontractors,
- Monitor development in other technical areas to stay ahead of the curve in the latest best design and operating practices,
- Measurement, monitoring and data collection of necessary points of operation to establish baseline energy use; and
- Provide a comprehensive Energy Efficiency/Demand Side Management (EE/DSM) solution that considers the customer's specific financial/investment parameters.

d. Innovation

Contractor's addition of Monitoring and Targeting services to other more traditional energy efficiency approaches also makes this program unique and innovative. Involving all levels of the organization from top management down to equipment operators in an energy-focused, continuous improvement process has been proven to yield tremendous improvements in energy efficiency as well as production efficiency. Providing the appropriate instrumentation (sub-metering), tying discrete energy use to levels of production, setting (and adjusting) target performance levels, and training of facility staff and management provide the tools for producing sustained energy reductions.

e. Integrated/coordinated Demand Side Management:

Contractor will practice cross marketing with other programs, most often cross-integrating energy efficiency and demand response opportunities on behalf of customers. Contractor's capability and familiarity with both energy efficiency and demand response programs will be beneficial to both Company and to end use customers. However, although the proposed Program does not specifically include Demand Response goals, Contractor will provide and assess demand response opportunities (TA/TI participation) and will conduct preliminary assessments for customers participating in the Program. Referral to applicable Company Demand Response Programs will also result in opportunities for customer participation.

Onsite generation is not anticipated to be a focus of this Program, however Contractor will identify circumstances under which onsite generation projects make sense to the customer.

Technologies within the program include:

Measure 1 - M&T - Continuous Improvement Process Operational Efficiency Improvements:
This measure implements a continuous improvement regimen at the facility.

Energy and demand savings accrue from the M&T system providing the facility personnel with almost real-time data relating the process energy consumption to production. Personnel are then able to discover why the energy consumption exhibited excursions both above and below a trend line average plot. Eliminating the causes of excursions of higher energy consumption and extending the causes of lower energy consumption excursions will result in a continuous trend of reducing energy consumption.

Measure 2 - Process Gas Efficiency – Boiler Economizer:
This measure adds an economizer to a boiler exhaust stack.

Energy savings accrue by recovering heat from high temperature exhaust gases leaving the boiler and using the heat to raise the temperature of the boiler feed water. This reduces the load on the burner and reduces gas consumption.

Measure 3 – Process Gas Efficiency - Regenerative Thermal Oxidizer:

This measure replaces an existing low efficiency thermal oxidizer with a new higher efficiency thermal oxidizer.

Energy savings accrue from a more efficient recovery of the heat required to oxidize the Volatile Organic Compounds (VOCs) in the incoming exhaust stream from the process.

Measure 4 - Process Efficiency Improvements:
This measure replaces existing low-efficiency thermal processes with new higher efficiency processes and/or optimizes operation of the process.

Energy savings accrue from a more efficient recovery of the heat required in the process by a regenerative operation. For example, beverage processing frequently requires heating the product to pasteurize it and then cooling it for storage. This heating and cooling process lends itself to recover heat regeneratively. The cold product entering the pasteurizer is heated by the hot product leaving the pasteurizer and the hot product leaving the pasteurizer is cooled by the cold product entering the pasteurizer. More than 91% of the total energy required to heat and cool the product can be recovered via the regenerative heat exchangers.

Measure 5 - Other Mechanical – Variable Frequency Drives (VFDs):
This measure installs VFDs on fans. The measure will permit the fan to operate under one of two scenarios.

The first scenario occurs if the fan serves a variable load but delivers constant volume, a control system will be incorporated into the measure that will sense the load and vary the fan speed to meet the load. This will reduce the fan energy consumption by the cube of the fan speed.

The second scenario occurs if the fan serves a constant load but the fan discharge is throttled to establish a fixed flow at less than the fan design point. The VFD will permit opening the discharge damper and reducing the fan speed to meet the flow requirements without throttling. Savings will accrue at the difference between the throttled fan power and the reduced speed power.

Measure 6 – High Bay Fluorescent Fixtures:
This measure replaces existing high bay metal halide light fixtures with energy efficient fluorescent high bay fixtures.

The energy and demand savings accrue from the reduced fixture wattages.

Measure 7 – High Bay Fluorescent Fixture Occupancy Sensors:
This measure adds occupancy sensors to some or all of the new energy efficient fluorescent high bay fixtures installed in the previous measure.
The energy savings (no demand savings) accrue from the reduced fixture operating hours.

Measure 8 – Compressed Air - Comprehensive Compressed Air Retrofit:
This measure evaluates the complete compressed air system and upgrades the system on both the supply and demand sides to reduce energy consumption.
Energy and demand savings accrue from the improved performance of the new system.

f. Integration across resource types (energy, water, air quality, etc):

Not applicable to this program.

g. Pilots:

Not applicable to this program.

h. EM&V:

SDG&E is proposing to conduct market assessment/characterizations and process evaluations by market segments. Within each of these evaluations, a portion of the research will be assigned to the third parties involved to both ensure that the third party programs are being run efficiently and that their integration to the portfolio is effective.

7) Diagram of Program:

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model:

The third party is an implementation channel and is included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

2013-2014 PIP Addendum

Program Name	Energy Efficient Water Pumping	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** Energy Efficient Water Pumping
Program ID Number:
Program type: Third-Party Program

2) **Projected Program Budget Table Note**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
	3P-EE Water Pumping	$7,087	$0	$456,898	$0	$463,985

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
	3P-EE Water Pumping	0	0	0

This is a non-resource program.

4) **Program Description**

a) Describe program

This third party program will help facilitate SDG&E's implementation of the Statewide Agricultural and Industrial Programs, Workforce, Education and Training Program, Customer Services Subprogram.

The Energy Efficient Water Pumping Program will improve the energy efficiency of water pumps used for irrigation and domestic water supply. The Program will focus on three market sub-segments: Agriculture, Municipal Water Agencies, and Large Turf Recreational Facilities, such as golf courses, parks and sports fields. Industrial process pumps, High Rise, Convention Centers, Cooling towers, condenser and chiller pumping accounts, in addition to primary, secondary and tertiary sewage pumps. To achieve energy savings, this Program will cover the cost of Pump Tests for SDG&E customers. The Program will provide the customers with an Operational Plant Efficiency Report, and Energy Cost Savings Analysis and SDG&E Incentive Program Assistance. The Program will provide a number of Educational Pump Efficiency Trainings throughout 2013-2014 period.. The reduction in water use will also translate to embed energy savings, as reduced water use means less energy required to run and deliver water to a water pump.

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Program delivery will be performed as follows:

Technical Assistance – Program staff will provide technical assistance to pump owners/operators by answering general questions in person, over the phone (toll-free line), and by email. Although site-specific engineering services are not proposed, each customer requesting will receive the Department of Energy Website access to or hard copy of the Department of Energy's (DOE), Hydraulic Institutes Pumping, Improving Pumping Systems Performance Manual. Technical assistance also involves helping the customer obtain a pump test and completing SDG&E's Incentive, Retrofit and On Bill Financing application process, as well as informing the customer of other SDG&E, federal and state assistance programs.

Pumping Efficiency Tests – The contractor will perform "Pump Tests" or Operational Plant Efficiency Tests, but not the official Pump Tests performed by Certified Laboratories or the Pump Manufacturer when the Pump is built.

Incentives for Pump Retrofit Projects – For a customer to receive a pump retrofit incentive, the following actions must be taken:

1. Customer completes a "Pump Test" to establish an energy use baseline.
2. Customer completes a pump retrofit project. An incentive will be available for the retrofit of an existing water pump that improves efficiency or reduces total energy use. This must include retrofit or replacement of either or both of the bowl and impeller.

   Specific ineligible activities include:
   - Repairing an inoperable pump, and
   - Replacing the pump for purely cultural system-related reasons (e.g. switching to a pump with "pressure bowls" to be able to run a sprinkler system).

3. Program will assist in completing SDG&E's applications which includes a copy of the pre-project pump test, and a paid invoice for the pump retrofit.
4. Deemed Rebates, Calculated Incentives and Finance Programs will be utilized and approve or reject the application based on stated eligibility requirements.
5. SDG&E's Deemed Rebates, Calculated Incentives or Finance program issues incentive check. Incentives will be calculated for each individual customer and will be based on the first year energy use savings at the rate of $0.09/kWh (process energy savings). The incentive will be capped at 50% of the project cost.

Although the Program will not provide engineering services, Staff will be available to assist with program enrollment, provide technical assistance and guidance, and make available informational documents and educational resources by mail and on the web.

b) List measures

- **Pumping efficiency Testing, (Pump Tests)** – The Program will cover the cost of a baseline pump efficiency test. If determined necessary multi-point testing will be provided to determine the cost effectiveness of retrofitting the customer's pumps.. The test will determine the baseline performance of the water pump, show the

potential for future energy and cost savings, and provide the information to estimate the potential incentive that can be earned if a pump retrofit project is completed.

Water Pump Retrofit Incentive -- **Incentives/Rebates will be processed under SDG&E's core programs**

Measure	Incentives (per unit)
Water Pump Test	$200.00

c) List non-incentive customer services

As a non-incentive customer service, the Program will provide educational resources, and answer technical questions over the phone so that pump operators can make informed decisions about the operation, maintenance and repair of their water pump. In addition, the program will provide educational training events where program will have experts presenting on topics such as VFD for Pumping Systems, efficiency improvements from well rehabilitation, and Pump Testing. There will be coordination with SDG&E's Energy Innovation Center trainings and participation in conferences where the program will either have booths providing information about the program or presenting on the SDG&E program.

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Information. This section is not applicable.

b) Market Transformation Information This section is not applicable.

c) Program Design to Overcome Barriers.

There are three main barriers that prevent pump owners from improving water pump efficiency. They include:

- **Hidden Costs:** The water pump is often just one component of an operation's total energy picture. If not called out separately on a utility bill, pump costs remain hidden and the opportunity to improve pump efficiency is overlooked.
- **Lack of Pump-Specific Cost Information:** Until a pump test is conducted, many pump owners don't know the potential energy and cost savings that can be gained through a pump retrofit.
- **Access to Capital:** Pump retrofits can represent a significant capital cost, averaging about $15,000 per pump.

Barrier	Solution
Lack of customer information about energy efficiency benefits - Hidden costs - Lack of pump-specific cost information	To overcome the two knowledge barriers to pump retrofit, the Program will offer customers technical assistance and subsidized pump tests. The pump test is a key element of the Program because it calls out the hidden cost of pump use, letting the pump owner know exactly how much an individual pump costs to operate.

Barrier	Solution
Lack of financing for energy efficiency improvements	This Program will provide cash incentive to reimburse up to 50% of the pump retrofit project cost. If further financial assistance is necessary, the customer can turn to On Bill Financing, a separate SDG&E offering through which customers have the option to spread the remaining capital cost over time at a 0% interest rate. Potentially, the energy savings gained through pump retrofit could meet or even exceed the monthly On Bill Financing loan payment, virtually eliminating the capital barrier to implementation.

d) Quantitative Program Targets

Table 5

Energy Efficient Water Pumping	Program Target by 2013	Program Target by 2014	Program Target for 2013-14
Water Pump Tests – all sectors	660	660	1320
Education Events	4	4	8

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan Goals and Objectives

This Program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
Program will provide baseline data that will inform SDG&E and CPUC of the current energy use of water pumps and the energy efficiency potential in this sector.	Agriculture	Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.	1-1: Develop knowledge base of efficiency solutions
Program provides technical assistance/education to train pump operators	Agriculture	Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.	1-2: Ensure workforce has information and training necessary to apply efficiency solutions
Program supports SP's plans for designing/launching program for irrigation efficiency	Agriculture	Achieve significant increases in the efficiency of electricity and natural gas use and onsite renewable energy utilization, including setting a specific target for irrigation efficiency.	3-1 Make information on efficiency solutions readily available to motivate efficiency improvements.

6) Program Implementation

a) Statewide IOU Coordination:

i. Program name
ii. Program delivery mechanisms
iii. Incentive levels
iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
vi. Similar IOU and POU programs

The Energy Efficient Water Pumping Program is part of a statewide effort to improve water pump efficiency. This Program is also considered to be a sub-program component of the Statewide Agriculture Energy Efficiency Program and the Statewide Industrial Energy Efficiency Programs. Thus, the Program is in a prime position to take advantage of existing synergies (e.g., existing website, databases, and pump tester's software, as well as experience regarding the retrofit incentive application process). These synergies

allow SDG&E to benefit from economies of scale and will also create consistency statewide.

The prime objective of SDG&E's proposed Energy Efficient Water Pumping Programs is improvement in water pumping efficiency. In addition, a second objective is to integrate and coordinate efforts directed at combined water and energy conservation. SDG&E will work with local water agencies to promote and create customer awareness of other applicable energy and water resource management programs offered by SDG&E, local water agencies, and state and federal agencies.

b) Program Delivery and Coordination:

i. Emerging Technologies program
ii. Codes and Standards program
iii. WE&T efforts
iv. Program-specific marketing and outreach efforts (provide budget)
v. Non-energy activities of program
vi. Non-IOU Programs
vii. CEC work on PIER
viii. CEC work on codes and standards
ix. Non-utility market initiatives
x. Emerging Technologies program
The Energy Efficient Water Pumping Program is not specifically coordinated with statewide emerging technologies efforts.
xi. Codes and Standards program
This Program does not address codes and standards.
xii. WE&T efforts
The Energy Efficient Water Pumping Program will offer technical resources and assistance to pump owners and operators. In addition, SDG&E will provide formal workforce education and training sessions on pump efficiency and pump testing as described in the Statewide Agriculture Energy Efficiency Program and Statewide Industrial Energy Efficiency Program PIPs.

xiii. Local marketing and outreach efforts
Previous experience implementing water pump efficiency programs in other IOU territories has shown that face-to-face interactions are much more effective than mass media materials in marketing water pump efficiency (refer to the Executive Summary of the EM&V report for the Center for Irrigation Technology's Agricultural Pumping Efficiency Program - Phase II by Equipose Consulting, downloadable from www.calmac.org as paper CIT0002.01, CPUC). Face-to-face interactions that took place during the pump audit were shown to increase program visibility and the likelihood that subsequent pump retrofit projects would be implemented. Further, contact with one individual at a municipal agency or water district has the potential to impact multiple pumping systems. Therefore, to reach targeted customers, the Program will rely on the SDG&E account representative network, personal contacts, and participating pump test companies to promote the Program and enlist customer participation.

SDG&E's website will provide downloadable program applications, eligibility guidelines.

The Program will walk customers through the Incentive, Rebate and On Bill Financing Process, acting as Project Manager with respect to the Incentive Process.

Eligible customers include water pump owners/operators of domestic and tertiary-treated (reclaimed) water supply pumps, agricultural fields, municipal parks, and large turf recreational facilities (e.g., golf courses, sports fields). Specifically excluded from the Program are residential accounts.

xiv. Non-energy activities of program

Currently, the State of California is experiencing a drought and water shortages are forcing water agencies to adopt water conservation policies and regulations. Several state and federal agencies such as the Department of Water Resources, U.S. Department of Food and Agriculture, and U.S. Natural Resources Conservation Service are involved in efforts to improve the efficiency of water use. The Energy Efficient Water Pumping Program complements and supports these efforts.

xv. Non-IOU Programs

Not applicable to this third-party program.

xvi. CEC work on PIER

The PIER Industrial-Agriculture-Water End-Use Program promotes the development of techniques for advanced irrigation and load management practices. The Program also focuses on advanced irrigation practices for water conservation and water recovery. This Program supports the efforts of the PIER Industrial-Agriculture-Water End-Use Program by offering agricultural, municipal, and recreational customers technical assistance and educational resources that lead directly to the improved efficiency of water pumps and the efficient use of water resources. Improved irrigation management not only reduces water consumption, it also reduces the amount of energy required to pump water, resulting in "embedded" energy savings that are additional to the energy savings that result from pump retrofit.

xvii. CEC work on codes and standards

Not applicable to this third-party program.

xviii. Non-utility market initiatives

Not applicable to this third-party program.

c) Best Practices

The Program implements the following Best Practices, as defined by the Best Practices Benchmarking for Energy Efficient Programs:

- *Anticipates and tackles large non-residential market challenges directly*. The most challenging market barrier to implementation is the cost to retrofit water pumps. The Program tackles this challenge by offering financial incentives that

will cover up to 50% of the project cost. In addition, the subsidized pump test provides a reasonably accurate estimate of annual energy savings. Thus, the customer is provided with objective information that allows an informed decision.

- *Integrates all program data, including measure-level data, into a single database.*
- *Requires pre-inspections for large projects with highly uncertain baseline conditions that significantly affect project savings.* The Program requires that a baseline pump test be conducted before a retrofit project occurs.
- *Keep the application process and forms from being overly complex and costly to navigate while at the same time not being over-simplified.*
- *Provide technical assistance to help applicants through the process.*
- *Develop a cadre of trade allies who can then assist customers through the process.*
- *Use the program's website to broadly inform the market and attract participation.*

d) Innovation

This Program is innovative in that it provides technical and financial assistance to water pump owners and the combination of services needed to achieve a high level of water pump retrofits.

e) Integrated/Coordinated Demand Side Management

This Program supports integrated demand-side management efforts by informing customers about other SDG&E program offerings for energy efficiency and demand response, as well as water efficiency programs offered by local water districts.

f) Integration Across Resource Types (energy, water, air quality, etc)

Though focused on water pumps, this program serves as a point of contact and lead for energy efficiency and demand response programs offered by SDG&E and water conservation programs offered by SDG&E partner agencies such as the San Diego County Water Authority. Therefore, the Program acts as an information channel, enabling customers to consider comprehensive energy efficiency retrofits for their entire facility or operation.

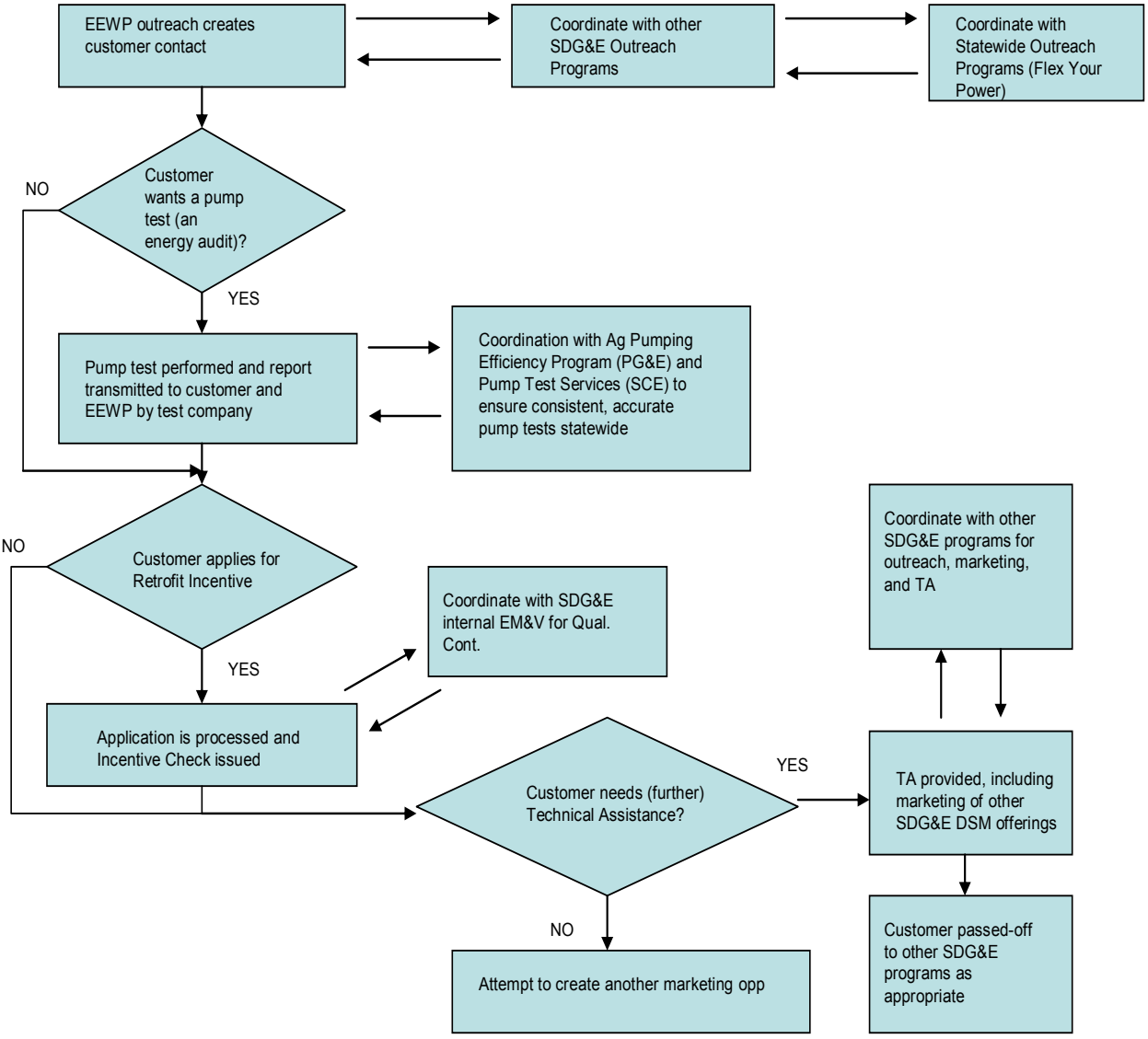
g) Pilots

This is not a pilot program.

h) EM&V

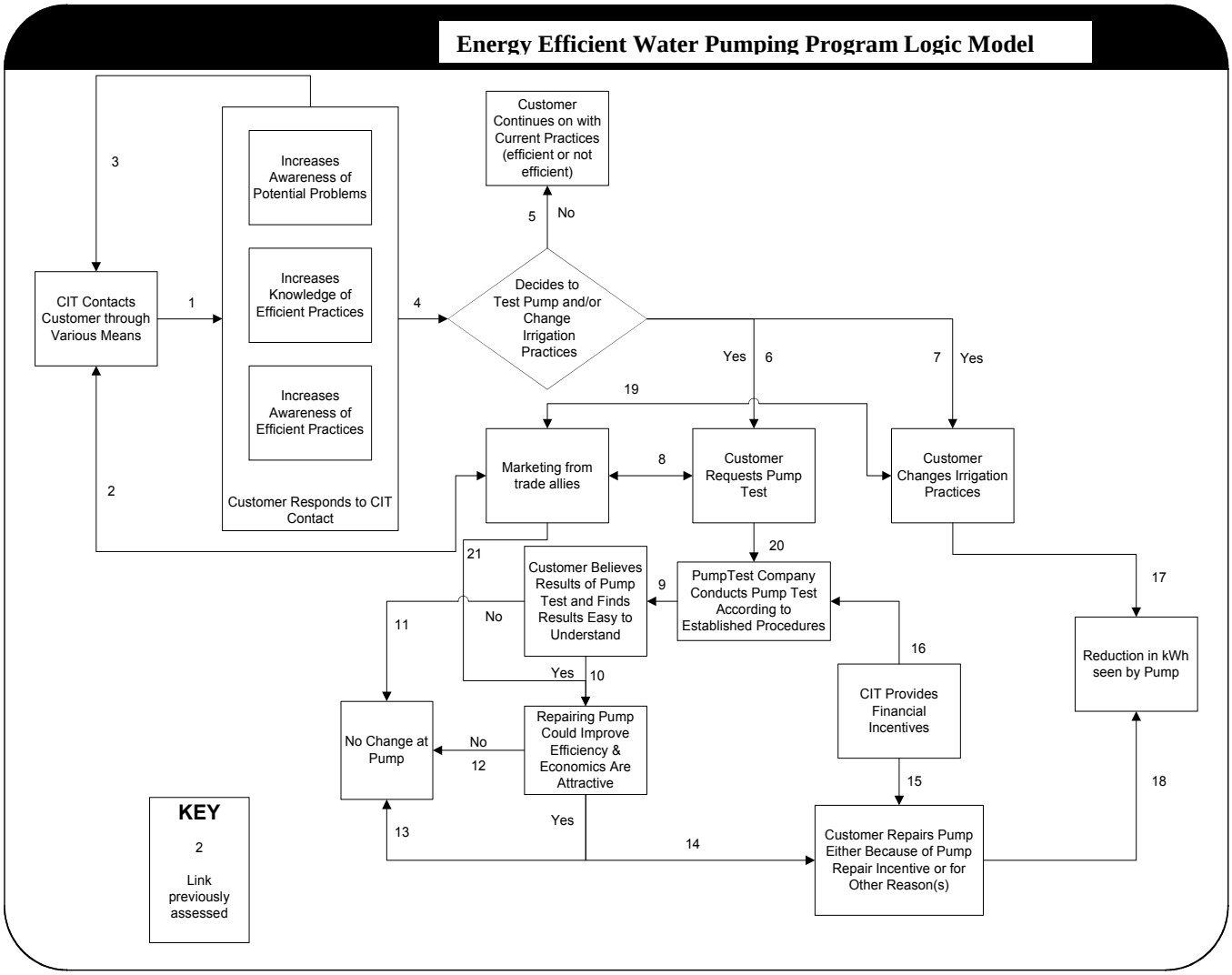
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2013- 2014 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) **Diagram of Program**



8) **Program Logic Model**

This Program Logic Diagram was presented as part of the EM&V plan for the Agricultural Pumping Efficiency Program (APEP), designed and implemented by the Center for Irrigation Technology (CIT) as a Third Party program from 2004-2005. The proposed Energy Efficient Water Pumping program is entirely similar to APEP and thus, the following diagram is accurate as to the proposed program logic:



Taken from "Research Plan for Evaluation of the California Irrigation Technology 2004_2005 Agricultural Pumping Efficiency Program" by Equipose Consulting, Inc.

1) **Program Name:** Non-residential HVAC
Program ID Number:
SDG&E Program type: Third-Party Program

2) Program Budget Table
Table 1

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3224	SW-COM-Deemed Incentives-HVAC Commercial	$142,377	$34,684	$2,328,279	$3,143,356	$5,648,696

3) **Program Gross Impacts**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3224	SW-COM-Deemed Incentives-HVAC Commercial	4,322	13,105,596	(61,540)

2) **Program Description**

a) Describe program

The Nonresidential HVAC Subprogram is a statewide program that will continue the transformation process of California's HVAC market to ensure that:

- HVAC technology, equipment, installation, and maintenance are of the highest quality;
- Quality installation and maintenance practices are easily recognized and requested by customers;
- The HVAC value chain is educated and understands their involvement with energy efficiency and peak load reduction; and
- HVAC market business models for installing and maintaining heating and cooling systems change from commodity-based to value-added service business.

This third party program may be implementing the 2010-2012 Statewide non-residential HVAC program deliverables of the Quality Maintenance Development program, Commercial Upstream HVAC Program and the Commercial Quality Installation Program in 2013-2014. They may also be implementing elements of the Commercial Quality Installation Development in 2013-2014 in collaboration with SDG&E program management.

Deliverables of the 2010-2012 HVAC Core PIP continuing in the 2013-2014 Transition Period that require collaboration and market transformation activities with the Western HVAC Performance Alliance (Statewide HVAC Industry Task Force) that influence the Quality Maintenance and Quality Installation programs will be conducted by utility program management. The 2013-2014 Transition Period Third Party Commercial HVAC Program through collaboration with utility program management aligns with the development of cost effective HVAC programs to meet the HVAC deliverables of the California Long Term Energy Efficiency Strategic Plan. Market transformation and direct energy savings and demand reductions will be achieved through a series of Subprogram elements that are summarized below:

Upstream HVAC Equipment Incentive
This subprogram element offers incentives to upstream market actors who sell qualifying high efficiency HVAC equipment. The logic that underscores this subprogram's design is that a small number of upstream market actors are in a position to impact hundreds of thousands of customers and influence their choice of equipment by increasing the stocking and promotion of high efficiency HVAC equipment. The upstream model cost-effectively leverages this market structure and existing relationships. The subprogram element also provides an online rebate application system to facilitate program participant sales and invoice tracking, which further reduces administrative costs as compared with paper application processing.

The upstream subprogram element is designed to adapt to market changes, and therefore the IOUs will continue working with relevant industry players to continually enhance the program to include new beyond-code upstream incentives.

Nonresidential Quality Installation
This subprogram element is applicable to installations of packaged HVAC systems, with a rated capacity up to 760,000 BTU/H. This subprogram element is based on the assumption that energy and demand savings are achievable through the application of QI in accordance with appropriate industry standards (e.g., ACCA, SMACNA and ASHRAE) applied to new commercial HVAC equipment.

In 2012-2013 the subprogram element will be developed in collaboration with the HVAC industry. This subprogram element intends to:

- Collaborate with EM&V efforts to quantify potential savings;
- Develop and implement a subprogram element focused on comprehensive, continuously improving installation activities that capture those savings and provide a high return on investment to the end-user, thus driving the intense level of market transformation of the HVAC industry envisioned by the Strategic Plan.

Nonresidential Quality Maintenance
This subprogram element may represent one of the more creative aspects of the HVAC "Big Bold Energy Efficiency Strategy." It is based on the assumption that there are energy and demand savings achievable through the regular application of quality maintenance (QM) procedures applied to existing nonresidential HVAC equipment. This subprogram element intends to implement a commercial maintenance program focused on comprehensive, continuously improving O&M activities that capture those savings and provide a high return on investment to the end-user, thus driving the intense level of market transformation of the HVAC industry envisioned by the Strategic Plan.

Equipment efficiencies are improved by applying diagnostic methods and the detailed HVAC inspection and maintenance tasks of American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air Conditioning (ASHRAE)/Air Conditioning Contractors of America (ACCA) Standard 180.

The QM subprogram element is driven by Service Agreements between customers and contractors. The program incorporates training, marketing and incentives to help contractors understand and communicate the value of HVAC quality maintenance and energy efficiency. The program is also supported by commercial customer referrals from utility Sales and Service Representatives.

The 2013-2014 HVAC QM efforts will focus on continuous improvement, design enhancements, implementation barriers and collecting program data to help improve savings estimates.

SDG&E Local Activity
In the SDG&E Service Area, Nonresidential HVAC activities may be performed through a third-party vendor. The Commercial HVAC Program provides all eligible commercial customers in the San Diego Gas & Electric (SDG&E) service area with tools, information and financial rebates to encourage the purchase new high-efficiency HVAC equipment and maintenance of their existing Air Conditioner (A/C) systems at optimal efficiency.

Program objectives include:

- Reducing barriers to program participation at the midstream and downstream levels,
- Engaging upstream market actors in coordinated marketing and information campaigns,
- Targeting high-yield commercial market segments with vertical marketing strategies that tap into well-established communication networks; and
- Changing contractor and technician practices to embrace improved technical processes and to build these with program support, into their normal operations.

The program's scope offers cross-cutting services and rebates to customers to promote quality maintenance and high-efficiency equipment choices. The Program will provide cost-effective incentives and maintenance services (up to 63.3 tons per circuit), utilizing ANSI/ASHRAE/ACCA Standard Maintenance and Inspection protocols, offering customers the flexibility to participate in statewide QM services or a more cost-effective comprehensive tune-up where the responsibility for creating and maintaining a formal service plan remains with the customer. Comprehensive services and equipment incentives will support customer and contractor engagement and influence maintenance and purchasing decisions.

Services are delivered through an approach that integrates targeted, vertical marketing through existing distribution channels. This outreach strategy includes a strong emphasis on face-to-face customer contact, integrated with easy-to-use customer tools available on the program website, discounts, financial instruments, and rebates provided by program partners and participating contractors.

b) List measures

To achieve energy savings and the market transformation desired by the Strategic Plan, a variety of appropriate incentives is required to influence specific market actions. Incentives will be targeted to all levels of the HVAC value chain and will be available for equipment (Upstream, Midstream, Downstream) and services (Quality Installation and Quality Maintenance).

Additionally, in coordination with the Emerging Technologies Program, the Nonresidential HVAC QM program will continue to consider higher initial incentives for any HVAC emerging technologies that may be newly introduced to the marketplace via

this subprogram. Once the new products have taken hold in the market place, any such incentives would be adjusted to reflect market conditions.

Upstream HVAC Equipment Incentive
Eligible measures may include packaged and split system air conditioners and heat pumps and other commercial HVAC equipment. Packaged units less than 65,000 Btu/hour are rated according to seasonal energy-efficiency rating (SEER) and steady state energy efficiency rating (EER). Units greater than 65,000 Btu/hour are rated according to EER and integrated part-load value (IEER). See the tables available on the program website www.premium cooling.com for current minimum qualifying efficiency ratings for each size category and corresponding incentive values.

Measure Category	Incentive Level
Air-Cooled Packaged and Split Systems < 5.4 Tons of Cooling Capacity	$75 - $450/ton
Air-Cooled Packaged and Split Systems >= 5.4 Tons of Cooling Capacity	$20 - $150/ton
Water- or Evaporative-Cooled Systems >= 5.4 Tons of Cooling Capacity	$107 - $300/ton
Variable Refrigerant (VRF/VRV) Equipment	$630 - $1,530/ton

Additional gas savings measures may be included in the program upon further evaluation of their viability and cost-effectiveness. New offering development evaluations will occur through ongoing IOU product development efforts and such continuous national efforts as the Consortium for Energy Efficiency's Commercial HVAC efforts.

SDG&E Local Activity
In the SDG&E Service Area, equipment incentives will be available for upstream, midstream or downstream applicants for direct expansion cooling systems (air-source heat pumps or A/C units, mini-split systems, and packaged or split-system units up to 63.3 tons), variable refrigerant flow systems, packaged terminal AC or HP units, economizers, and evaporative coolers (direct and indirect) for early retirement, replacement on burnout and above-code installations in previously unconditioned spaces. The program also offers incentives to manufacturers and/or customers toward the direct installation of PTAC/HP controllers (Occupancy Sensor Energy Management Systems and Fan Speed controllers), and will continuously review and incorporate cost-effective high performance technologies as they become available. Incentive levels are consistent with the statewide upstream incentives in the table above.

Incentives for at-code early retirement of eligible HVAC units will be available in compliance with industry protocols for packaged unit installation. Contractors or customers who pull permits will have priority access to early retirement, replace-on-burnout and new construction incentives for above-code equipment. Upstream vendor stocking and sales incentives will be limited to sites not incented through downstream or midstream channels.

Nonresidential Quality Installation

At this point, providing a list of measures and incentive levels is premature, as a valid Quality Installation based Subprogram must be more fully planned and vetted through the Western HVAC Performance Alliance (WHPA), and since EM&V research under discussion through the HVAC EM&V Project Coordination Group (PCG) is needed to clarify a market-realistic baseline for the level of quality of HVAC installation services. This Subprogram will be designed during 2012-2013 for the 2013-2014 program cycle and therefore will not be providing incentives, at least not initially.

Nonresidential Quality Maintenance

Measure	Purpose	Incentive Level
Customer Service Agreement Incentive	• Decrease customer's additional cost to upgrade to a QM Service Agreement. • Keep the Service Agreement in place and units maintained by Contractor for 3 years	Up to $3,836 per HVAC unit covered by agreement
Contractor Service Agreement Incentive	• Compensate Contractors' for overhead costs related to Service Agreement sale and unit inventory.	$75
Contractor QM Tasks Incentive	• Reduce some of the additional costs of minor repairs that are required but don't receive incentives.	$50
Contractor EE Tasks Incentive	• Compensate Contractors' for completion of a specific set of tasks (see 4.1) required to bring the unit to minimum performance level (within 6 months of Service Agreement approval). **EE Tasks Eligible for Incentives** Coil cleaning Fan Maintenance Refrigerant system test Refrigerant system service Economizer functional test Integrate economizer wiring Replace damper motor Replace controller/sensor Renovate linkage & other components Decommission economizer Replace thermostat Adjust thermostat schedule	Up to $2,425 per HVAC unit

SDG&E Local Activity

SDG&E customers and contractors will be provided with a choice between the Statewide QM services summarized above and a cost-effective "premium tune-up"that includes the following measures and incentives:

SDG&E Local Area Measures (Comprehensive Tune-up):

Measure	Purpose	Incentive Level
Customer Service	• Decrease customer's additional cost to upgrade to a QM Service	$0

Measure	Purpose	Incentive Level
Agreement Incentive	Agreement.	
Contractor Service Agreement Incentive	• Compensate Contractors' for overhead costs related to Service Agreement sale and unit inventory.	$0
Contractor QM Tasks Incentive	• Reduce some of the additional costs of minor repairs that are required but don't receive incentives. This incentive is contingent on customer contribution of $100 per unit for each unit at a participating location to cover additional services such as gas combustion tune-ups, leak detection and sealing, refrigerant evacuation and repairs to all or some portion of the units to increase the number of eligible units participating at the site.	$50
Contractor EE Tasks Incentive	• Compensate Contractors for completion of a specific set of tasks (see 4.1) required to bring the unit to minimum performance level. 25-Point ANSI/ASHRAE/ACCA Maintenance and Inspection Lubricate serviceable bearings Check, clean or replace filter Condenser Coil cleaning Inspect and comb bent condenser fan fins Replace damaged refrigerant line insulation Upgrade valve caps to brass with O-Ring seal Evaporator Coil cleaning Fan Maintenance Refrigerant system test Refrigerant system service Economizer functional test Integrate economizer wiring Replace controller/sensor Replace outdoor air sensor to correct deadband problem Renovate linkage & other components to restore economizer operation Increase duct insulation in pre-1992 buildings (exposed ducts in unconditioned space) Gas combustion tune-up with customer co-payment	Up to $2,225 per HVAC unit

c) List non-incentive customer services

The Nonresidential HVAC subprogram will include a variety of non-incentive program services intended to support customers and contractors in achieving greater energy efficiency from HVAC upgrades and quality installations and quality maintenance The list of such service includes:

- Education of the market on the value of selecting high-efficiency systems.
- Reports for customers of estimated energy savings, cost savings and carbon reductions for their HVAC systems treated under the program.
- Training for contractors on HVAC industry standards, sales and marketing of the value of those standards, and their implementation in the field.
- Education for customers on how HVAC industry standards can help them compare bids of contractor services and select those with high-road skills.

- Customer education about the benefits of establishing a long-term trust relationship with a qualified contractor, which can lead to future energy and cost savings, such as from better planning for future HVAC system replacements and the quality installation of those systems when replaced.
- Participating contractors can receive new business sales leads from utility company customer representatives.
- Improved comfort and indoor air quality for customers.

SDG&E Local Activity

The SDG&E Commercial HVAC Program includes several additional non-incentive services to support contractors and customers, including technical assistance, sales support, inspections, cross-program marketing and pre-installation assistance.

Technical Assistance

- Customers will be offered user-friendly energy savings calculators, information and tools available on the program website, and links to governmental and third-party information resources on selecting a contractor, calculating the benefits and simple payback periods for energy efficiency investments, and tips for improving energy efficiency.
- Contractor will provide a multi-port website with secured portals for access by contractors and manufacturers, and a separate public portal for commercial customers.
- Training and quality assurance tools will include close monitoring of quality installation and tune-up activities through participating Verification Service Providers and/or program staff.
- Program participants and partners will have access to telephone and e-mail support through a toll-free telephone line and customer service center where trained program representatives can take applications, provide program information, and respond to web inquiries.

Sales support to HVAC contractors including direct outreach to promote sales of HVAC equipment and/or services in targeted market sectors.

100% inspections and delivery of cross-program information to commercial end-users who install new HVAC equipment. Participants will receive literature on other Company programs appropriate to their buildings including demand-response programs, specialty appliance or lighting programs, and other program literature or referral sign-up materials as provided by the utility.

Pre-inspections and on-site assistance with reservation forms to support customer participation as needed.

3) **Program Rationale and Expected Outcome**

The Nonresidential HVAC subprogram is a market transformation oriented program, and so the following information about the subprogram for 2013-2014 replaces and enhances sections 5.a., 5.b. and 5.c. of the HVAC Program plan from 2010-2012, which had covered quantitative baseline and market transformation information, as well as program design to overcome barriers.

i. Summary of the market transformation objectives of the program:

The Nonresidential HVAC Subprogram will continue the transformation process of California's HVAC market to ensure that:

- HVAC technology, equipment, installation, and maintenance are of the highest quality;
- Quality installation and maintenance practices are easily recognized and requested by customers;
- The HVAC value chain is educated and understands their involvement with energy efficiency and peak load reduction; and
- HVAC market business models for installing and maintaining heating and cooling systems change from commodity-based to value-added service business.

ii. Description of the market, including identification of the relevant market actors and the relationships among them:

The three central functions of heating, ventilating, and air-conditioning (HVAC) are interrelated, especially with the need to provide thermal comfort and acceptable indoor air quality within reasonable installation, operation, and maintenance costs. In modern buildings the design, installation, and control systems of these functions are integrated into one or more HVAC systems.

The HVAC industry is a worldwide enterprise, with roles including operation and maintenance, system design and construction, equipment manufacturing and sales, and in education and research. The HVAC industry was historically regulated by the manufacturers of HVAC equipment, but regulating and standards organizations such as HARDI, ASHRAE, SMACNA, ACCA, Uniform Mechanical Code, and International Mechanical Code have been established to support the industry and encourage high standards and achievement.

For very small buildings, contractors normally "size" and select HVAC systems and equipment on behalf of end-use customers. For larger buildings, building services designers and engineers, such as mechanical, architectural, or building services engineers analyze, design, and specify the HVAC systems, and specialty mechanical contractors build and commission them. Distributors stock equipment from manufacturers in local regions and sell HVAC systems to contractors or building services companies. Building permits and code-compliance inspections of the installations are normally required for all sizes of buildings. (Reference: Wikipedia, HVAC Industry)

iii. Market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies:

Successful market transformation programs first and foremost need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given

to program designers.)[1]" The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts[2], but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful market transformation programs have involved multiple organizations, providing overlapping market interventions[3].

Key Barriers:

- Lack of awareness: Customers do not appreciate the energy efficiency benefits of QI/QM, and suffer from a lack of information, time, and resources to assess their own energy efficiency opportunities;
- Performance uncertainties: Previous research has been conducted on the energy savings achievable through HVAC system maintenance measures such as RCA and Duct Sealing, but despite all this research many performance uncertainties still exist, and furthermore, this research has not been able to effectively demonstrate the full energy savings benefits of QI/QM.
- Bounded rationality: It is logical to assume that the HVAC industry would want to take the necessary training required to deliver high quality service; however, market dynamics have not supported such logic as the industry has largely become commoditized and low price/low quality typically wins out. Equipment stocking patterns have followed this same dynamic, such that customers who may seek high-efficiency systems have had to wait for systems to be shipped from outside of California.
- Hidden costs: End-use customers do not clearly recognize the loss of energy efficiency performance benefits of a HVAC system if it is not properly installed and maintained, and do not recognize without assistance the value over time of purchasing a high-efficiency system versus a standard-efficiency one.
- Organizational customs: The HVAC industry has largely become commoditized into an industry driven by low costs and quality where quality is assumed but not understood or valued by the customer. This is a result, in part, of contractors having minimal success in communicating the value of QI/QM to consumers and consumers not understanding the linkages between comfort and energy use.

iv. Description of the proposed intervention(s) and its/their intended results, including which barriers the intervention is intended to address:

Historically, the nonresidential retrofit programs directed toward customers and contractors have had very low uptake rates on high-efficiency HVAC systems, plus

[1] Peters, J.S., Mast,B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1."* Available at http://calmac.org/publications/19981215CAD0001ME.PDF.
[2] CPUC (2008) Strategic Plan, p. 5.
[3] Nadel, Thorne, Saches, Prindle & Elliot (2003).

there is very little understanding in the market of the value of quality maintenance and installation services. Consequently, the critical foundation required for achieving HVAC market transformation consists of two main strategies:

- Continue to leverage the high level of participation in the Upstream subprogram element to ensure availability in the market and drive sales of high-efficiency equipment, and

- Build customer and contractor participation in the HVAC Quality Maintenance program element, since it is designed to provide an evergreen foundation across a broad customer base of existing HVAC users for achieving deep energy savings across HVAC and other programs.

    - The QM program element incorporates training, marketing and incentives to help contractors understand and communicate the value of HVAC quality maintenance and energy efficiency.

    - This program element is driven by Service Agreements between customers and contractors, establishing an on-going relationship of trust that also then enables better decisions to be made about replacement of equipment with high-efficiency systems and the proper quality installation of those systems.

    - The resulting increase in market share of high-efficiency equipment and quality installation and maintenance services then allows increased levels of customer, installer, and distributor/manufacturer knowledge and interest in these systems, which should then make it easier to achieve further increases in the market share of these energy saving practices.

Program Intervention to Overcome Barriers

- Lack of awareness: By quantifying the energy efficiency benefits of QI/QM, the benefits of QI/QM (as well as those "premium" HVAC services that prove to exceed the ANSI QI/QM standards) will be better understood by program participants. It is our goal to discover the evidence, and expected return on investment, that customers will require to authorize payment for these measures when subsidies are removed. Via the Upstream subprogram element, the delivery process of information about high-efficiency units is streamlined. Delivery from distributors and manufacturers through contractors will provide consistent information on the benefits of energy efficiency and reduces the need for end user analysis, thus allowing more customers to see the benefits of implementing energy efficiency projects/measures.
- Performance uncertainties: The innovative diagnostic methods and technologies used by the QM program element set it apart from tune-ups and other HVAC maintenance efforts. Program measures include a thorough site assessment and repairs well above and beyond routine HVAC unit maintenance. The methods provided allow contractors enrolled in the program to precisely evaluate commercial customers' HVAC units and subsequently improve unit efficiency and realize energy savings.

- Bounded rationality: The subprogram incentives and promotion of qualified participating contractors encourage the HVAC industry to want to take the necessary training required to deliver high quality service. Upstream incentives ensure product availability to influence the decision maker at the time of purchase or service.
- Hidden costs: By encouraging contractors to promote the concepts and value of quality maintenance at the time of system installation, customers will be more likely to regularly maintain the system and be assured that the energy efficiency performance benefits of their new system will continue throughout the life of their system. The Upstream incentive channel controls incentive availability for high-efficiency systems to the most relevant segments and can support smaller-per-unit incentives than if they were customer rebates, thereby maintaining cost effectiveness.
- Organizational customs: The program effort is designed to help demonstrate the value proposition of a high quality contracting business and educating consumers on the energy benefits of QI/QM. Additionally, incentives to upstream market actors encourage the development and promotion of new energy-efficiency technologies and tiered incentive structure to build towards meeting future codes and standards changes.

Additionally, several other issues could potentially influence subprogram design for Quality Installation, including:

- Other organizations have established processes and procedures for QI. These processes should be evaluated to determine how well they perform in comparison to minimum QI standards.
- Lack of industry consensus on QI standards and technical protocols
- Overcoming market barriers to exceeding Title 24 Standards
- Cost-effective constraints arising from limited savings for QI measures exceeding Title 24.
- Forging sustainable HVAC industry and market actor support.
- Addressing challenges in standard applicability across a range of commercial building types and HVAC systems.
- True energy savings measurement procedures.
- The WHPA "Road Map" noted that while of both the Title 24 and ACCA standards mandate distribution system evaluation and specify limits for allowable leakage, the Nonresidential QI committee concluded that:
  - "To date, no satisfactory method for performing these examinations has been found for a wide range of non-residential installations." (WHPA Non-Residential Quality Installation Road Map, 2010, p. 2)

a. Program or market logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results:

b. Evaluation plans and corresponding Market Transformation Indicators and Program Performance Metrics based on the program logic model:

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. The Commission gave each PPM a metric type which indicated the reporting frequency: Metric type 2a indicates that the IOUs should report on the metric on an annual basis (unless indicated otherwise). Metric type 2b indicates the IOUs should report on the metric at the end of the program cycle.

Below are the approved PPMs and metric types for the three elements of the Nonresidential HVAC Subprogram (Resolution E-4385, Appendix A, pp 35-36):

Table 3 – Program Performance Metrics

Program	Metric	Metric Type
Upstream HVAC	1. (a) kW/ton incentivized in the program. (Note: Decrease in metric indicates positive progress), combined with (b) the number of units that are incentivized in the program vs. (c) number of units over 5.4 tons shipped to California as tracked through AHRI shipment data. (Assuming the availability of AHRI data.)[1] [1] As is indicated within this PPM, the availability of item (c) in this PPM is not yet confirmed, since it is closely-held, proprietary third-party information. The IOU team is in discussions with AHRI about obtaining this data and to ascertain the statistical validity of what data would be provided; the IOU team will communicate with the ED about any issues regarding this data element before the first reporting period in Q1 2011 for 2010 information.	2a
	2. The distributor stocking percentage of units eligible for program. (Note: Assumes availability of individual distributor data and/or aggregated data from HARDI.)[1] [1] The availability of this data is not yet confirmed, since it is closely-held, proprietary third-party information. The IOU team is in discussions with AHRI about obtaining this data and to ascertain the statistical validity of what data would be provided; the IOU team will communicate with the ED about any issues regarding this data element before the first reporting period in Q1 2011 for 2010 information.	2b
Commercial Quality Installation	1. Percentage of HVAC contracting companies that are participating in statewide commercial QI program as a share of the targeted market* * "Target market" defined as C20 licensed HVAC contracting companies in CA.	2a

Market Transformation metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as "Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market."[4] The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the

[4] California Public Utilities Commission Decision, D.98-04-063, Appendix A.

continuous transformation of markets around successive generations of new technologies[5].

Markets are social institutions[6], and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains[7] as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress[8]. According to York[9], "Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are three ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy."

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment "H" are approved for this sub-program as applicable.

Table 4 – Market Transformation Indicators

HVAC-1	Market share of energy efficient climate appropriate HVAC equipment.
HVAC-3	Percentage of all California Commercial HVAC installation contractors using Quality Installation guidelines (weighted by size).
HVAC-4-Commercial	Percentage of Commercial HVAC units (systems) serviced in IOU service territory under a QM Service Agreement.

d) Quantitative Program Targets:

The program will achieve the following program targets:

Table 5

	Program Target for 2013	Program Target for 2014
Upstream, Midstream, DownstreamHVAC Equipment Incentive including PTAC/HPs		
Tons of Equipment Cooling Capacity Incentivized	TBD	TBD
Nonresidential Quality Installation		

[5] California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf

[6] Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) "From technology transfer to market transformation". Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at *http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/*

[7] Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

[8] Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings.*

[9] York, D., (1999). "A Discussion and Critique of Market Transformation", Energy Center of Wisconsin. Available at http://www.ecw.org/ecwresults/186-1.pdf.

Contractor Information Sessions	TBD	TBD
Participating Contractors	TBD	TBD
Nonresidential Quality Maintenance		
Commercial HVAC Systems Serviced	TBD	TBD
QM-Standard Service Agreements Signed	TBD	TBD
Participating Contractors that Sign at Least One QM-Standard Service Agreement	TBD	TBD

e) Advancing Strategic Plan goals and objectives:

Upstream HVAC Equipment Incentive
Support for Strategic Plan, HVAC Goal 1 to improve code compliance (and related SB454, which is now codified at Public Utilities Code Section 399.4)

Most HVAC distributors and manufacturers have not actively engaged in the areas of quality installations and increasing related permit compliance, mainly because they are not directly involved in the relevant market processes. However, they are supplying and helping to train the contractors who are in the best position to ensure that quality installations occur, and who are often in a central role regarding permit compliance. The program will continue to engage these market actors for ideas and possible program modifications to enhance support of quality installations and permit compliance. Also, as newer technology and techniques arise that can impact this area, this Upstream channel can potentially become an avenue of increased support or inclusion of the new technology or techniques that can lead to further advancement of HVAC Goal 1.

Support for Strategic Plan, HVAC Goal 4 to improve market penetration of new climate-appropriate HVAC technologies

The Upstream HVAC subprogram element can serve as an incubator program for increasing the market penetration of promising HVAC technologies, in coordination with HVAC elements of the Emerging Technologies program.

The subprogram element will support improvement to HVAC equipment by providing incentives for various high-efficiency HVAC equipment categories. The eligible equipment categories are based primarily on the Consortium for Energy Efficiency HVAC specifications, which have multiple tiers designed to increase the market share of high-efficiency equipment.

SDG&E Local Activity
In the SDG&E Service Area, customer incentives and service vouchers will be used to pull the market toward more efficient consumer choices when considering the repair or replace decision, and when choosing or scheduling maintenance services. These services are aligned with the HVAC component of the "Big Bold

Energy Efficiency Strategies" (CPUC D.07-10-032 and D.07-12-051), where "Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate [Section I, p. 6 California Long Term Energy Efficiency Strategic Plan, Sept 2008]."

Additionally, technologies such as ductless mini-split systems, occupancy sensors for hotel/motel guest room units, and high efficiency evaporative coolers are incorporated into the Program to support integrated whole-building efficiency, and the green building initiative.

This Program supports the EE Strategic Plan in the following manner:

- Targets non-residential customers and thus supports meeting the commercial sector goals (3. Commercial Sector, Strategy 3)
- Specifically addresses HVAC and thus promotes quality installation and maintenance (6. HVAC, Strategies 1 & 2)
- Will actively promote Company financing programs and partner with non-Investor Owned Utility (IOU) financing programs as these are developed (3. Commercial Sector, Implementation Strategy 2-6)
- Coordination through Company financing programs to push for comprehensive Demand-Side Management (DSM) retrofits. (3. Commercial Sector, Strategy 3)

Nonresidential Quality Installation
The program will help to achieve the following near-term strategic goals as identified in Chapter 6 of the Strategic Plan:

- 2-3: Provide expanded QI/QM training – In order to participate in the program, contractors will be required to attend specific training sessions that introduce them to the appropriate industry standards.

- 2-4: Implement contractor accreditation program – Additional support will be made available through the subprogram to reinforce the WE&T Program's efforts toward increasing the level of technician certification.

Nonresidential Quality Maintenance
The program will help to achieve the following near-term strategic goals, as identified in Chapter 6 of the Strategic Plan:

- 2-1: Create a Statewide QI/QM Brand – QM will support the Energy Upgrade California branding as applicable.
- 2-2: Launch Statewide Brand – QM will support the Energy Upgrade California branding as applicable.
- 2-3: Provide expanded QI/QM training –HVAC service technicians will continue to be fully trained on the delivery of the measures promoted by the Program. Furthermore, feedback mechanisms will be utilized to continually evaluate technician performance to ensure that they are applying the information they are being taught in the QI/QM training. Nearly all economists and government leaders agree that negative impacts of the current worldwide financial crisis are

likely to linger for years. Thus, the IOUs will work closely with the industry to reduce (and wherever possible eliminate) the direct costs of this transformative training to technicians and contractors who are willing and able to apply their skills and new tools to the task at hand.

- 2-4: Implement contractor accreditation program – Efforts will be made to promote NATE certification.
- 4-5: Develop standards for on-board diagnostic functionality – Evaluating the use of hand-held and other types of diagnostic systems in the field will help determine viable protocols for commercial applications.
- 4-6: Prioritize in-field diagnostic approaches – Conducting the appropriate level of research into existing diagnostic and verification approaches will provide the IOUs and the HVAC industry with the information necessary to target future efforts based on quantifiable energy efficiency benefits.

4) **Program Implementation**

a) Statewide IOU Coordination

Additional areas of program coordination include:

i. Program name
ii. Nonresidential HVAC Subprogram
iii. Program delivery mechanisms
iv. Incentive levels
See Section 4.b above for information on subprogram measures.
v. Marketing and outreach plans
On a micro level, each subprogram element has specific tactics in place to engage the industry in its own particular demand reduction, energy savings and market transformation objectives
vi. IOU program interactions
vii. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b) Program delivery and coordination:

The program will be coordinated with the following activities:

i. Emerging Technologies Program

The program is expected to interact extensively with the ET Program to ensure the proper focus on remote and on-board diagnostic equipment and the advancement of energy efficient climate-appropriate HVAC technologies.

SDG&E Local Activity

The Market Potential Study highlights the potential savings for both energy and demand from HVAC measures. It recommends hotel guest occupancy sensors for HVAC and lighting controls as one of nine measures recommended achieving

savings over 2005 Title 24. HVAC occupancy sensors were available on the program in 2010-12 and will be continued in 2013-14. The study also notes the potential of emerging technologies to gain traction in 2013, including technologies such as ductless mini-split and multi-split systems, hot/dry AC systems, evaporative cooling, indirect evaporative cooling, water-cooled heat exchangers for HVAC equipment, variable refrigerant flow systems, high performance rooftop units, fault detection and diagnostics (FDD) equipment and comprehensive commercial HVAC Rooftop Unit Quality Maintenance. Most of these emerging technologies are available in the current cycle, with the exception of hot/dry AC systems, water cooled heat exchangers, high performance rooftop units and FDD systems, which are pending savings documentation and market availability. As feasible and cost-effective, these will be evaluated in the 2013-14 cycle.

ii. Codes and Standards Program

iii. WE&T efforts

The workforce education and training needs for the HVAC industry will be managed through the Statewide IOU Workforce Training and Education (WE&T) Program umbrella. However, the WE&T activity will be coordinated with the statewide HVAC Subprogram activity to ensure that the individual efforts are complementary.

Participating contractors in the HVAC subprogram will be required to attend program-specific QM training in order to participate in the programs.

The IOUs will leverage relationships with upstream market actors established through this subprogram to extend the delivery of training modules developed through the HVAC elements of the statewide WE&T Program.

iv. Local Marketing and Outreach efforts

The primary outreach vehicle between the Upstream subprogram element and program participants is via the website: www.premiumcooling.com and other electronic communication (e.g., e-mail and newsletters). The cost of operating this website is shared between the participating IOUs and POUs. Additional marketing and outreach activities exist through personal contact between the program staff and program participants. Targeted QI/QM marketing materials can be distributed to contractors via these established upstream channels.

SDG&E Local Activity

In the SDG&E Service Area, contractors will be provided with brochures, post-cards and other materials for promoting program services and their involvement with the subprogram. Participating contractors and links to their websites are featured on the program website at www.premiumcooling.com, where contractors have a secure portal where they may download local area marketing materials and statewide customer forms, QM Addenda and incentive calculators.

The Nonresidential HVAC subprogram will coordinate marketing activities with other offerings within the Commercial program to create a seamless customer experience.

v. Non-energy activities of program

The direct energy benefits of the program result from promotion of high efficiency HVAC systems and the quality installation and maintenance of new and existing systems. Other activities will be required to support these energy savings goals. These activities include significant efforts in program design enhancements and coordination, technology evaluation and integration, contractor training and consumer marketing.

SDG&E Local Activity

Non-energy activities of the SDG&E Commercial HVAC Program include training and integration aspects that do not specifically contribute to resource acquisition noted above, and mandatory inspections on up to 100% of the equipment and controller installations as an opportunity to verify that the equipment meets program eligibility criteria and to promote related programs (lighting, appliances or other third-party or IOU programs) as a means to add comprehensiveness to service delivery. (Since the Third Party Non-residential HVAC Program will not claim additional energy savings for referring customers to appropriate programs or coordinating customer involvement in Company financing opportunities for non-HVAC measures, this must be considered a non-energy activity.)

Providing additional consumer information on other programs, choosing a contractor, or energy-saving tips on the program website, and other links and information are also non-energy activities.

Other non-energy activities include alignment with other programs or entities; supporting code compliance, regulatory reporting, and communicating program updates to market actors who do not directly participate in installing HVAC equipment or claiming incentives.

vi. Non-IOU programs
vii. CEC work with EPIC
viii. CEC work on codes and standards
ix. See Section 6.b.ii. above.
x. Non-utility market initiatives
xi. The tenets of QI and QM are being actively pursued by leaders in the HVAC industry itself. Air Conditioning Contractors of America (ACCA) has taken the lead in this national effort by developing various ANSI- recognized QI and QM standards. These standards have been widely adopted throughout the industry (e.g., AHRI, ASHRAE, CEE, ENERGY STAR, Utilities). Other organizations have also developed processes designed to improve the operating efficiency of HVAC systems (e.g., SMACNA, NCI). The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards that drive increased energy savings for customers.

c) Best Practices:

The program design incorporates many of the best practice elements from the National Energy Efficiency Program Best Practices Study. Specific items include:

Program Theory and Design

- Anticipation of market challenges built into program design
- Program integrates statewide policy objectives into program design
- Program plan and program theory have been tested over the past two years and have been adjusted based on new challenges and quality assurance feedback.

Project Management

- Clear lines of responsibility and communication are set forth in the program participation agreement (contractors and/or customers).
- Field staff and efficiency service providers will be trained in program procedures and technical requirements.
- Consistent, experienced personnel contribute to the effectiveness and management quality of the 2013-14 program.

Reporting and Tracking

- All Program data, including measure-level data, will be integrated into a single database using Company's SMART system.
- The SMART system is linked to Company's customer relationship management (CRM) systems.
- The Program utilizes electronic workflow management and web-based communications including the program website, e-forms and submittal processes, and electronic upload of data to the SMART system.
- Program prospects will be contacted and tracked early to drive program intervention in the pre-season and off-season months, via communications from program sales representatives, mailers, and program partners (including Account Executives, distributors, and/or contractors).
- The level of tracking will be balanced against resource availability.
- Post-inspections are required for 100% of the equipment installation sites.
- Independent Measurement & Verification (M&V) contractors conduct M&V
- Contractor performance is tied to independently verified results using Verification Service Providers and/or program validity models to identify and remedy potential performance issues.

Participation Process

- The application process and forms are designed for user-friendly navigation and ease of use, including electronic or telephone submittal options, telephone support and on-site assistance for larger projects.
- Technical assistance is provided to contractors through Verification Service Providers and program representatives, who help applicants through the process

Incentive Approaches

- Incentive strategy is designed to maximize net program impacts
- Various financial incentive methods are used to maximize acceptance in each circumstance.
- Incentive levels will be periodically reviewed and adjusted based on market demand.
- Leverage of Company's On-Bill Financing program.
- Voucher program limits program payments to free riders.

The Process Evaluation Study conducted by Tetratech recommended that paperwork and other program requirements introduced in the statewide QM program on September 30, 2011 may cause the program to lose contractor participation. They recommended additional contractor training and adressing contractor concerns in conjunction with the other IOUs. Streamlined paper forms were introduced shortly after the evaluation and additional training is planned for 2013-14. Tetratech also recommended minor updates to website and program logic model. These will be incorporated into the 2013-14 program.

d) Innovation:

The Statewide Nonresidential HVAC Subprogram takes an innovative approach to program design through its implementation of a multi-faceted effort to engage all levels of the HVAC value chain. Each subprogram element under the umbrella and in those within the Residential HVAC Subprogram is designed to influence specific market changes. Within the subprogram elements, innovative techniques such as co-branded marketing and workforce training through existing industry channels will be employed to increase the program's effectiveness. In addition, technical innovation is achieved specifically through the HVAC subprogram's coordination with a dedicated advocacy effort to advance the state-of the-art in vapor compression cooling and fault detection and diagnostics within the Emerging Technologies program.

A critical component of the Upstream subprogram element is its use of a web-based application and participation tool that provides transparency to both the program participants as well as the host IOU to be able to see what is occurring for applications that involve them. That this system allows participants to know the status in aggregate or down to a customer application level makes participation easy and efficient. For program participants, a paperless system is critical for ease of participation and for utilities there is reduction in cost per kWh saved from administrative costs over a paper review process.

Designing and delivering the QI subprogram program element through active partnership with the industry will increase the likelihood of its success, as will the use of industry-accepted standards for QI as the foundation for activities.

The innovation of the QM subprogram element exists through the adoption of a comprehensive maintenance approach based on industry-accepted standards. A more comprehensive maintenance effort that delivers well-documented energy savings sets the standard for HVAC efficiency programs. Furthermore, delivering this program through active partnership with the industry will increase the likelihood of its success. Finally,

innovation results through a continuous improvement process that will be employed to evaluate the viability of offering additional incentives for installations that exceed established program standards.

SDG&E Local Activity

In responding to new challenges for the 2013-14 program cycle, the Program will offer comprehensive and innovative delivery of services and the minimization of lost opportunities:

- *Vouchers for program services*: vouchers offer protection against double-dipping and customer/contractor misunderstandings, while providing direct customer rebates for participating in efficiency tune-ups. Commercial customers who participate in the Program through equipment replacement will be offered vouchers for tune-ups on units not replaced or other sites in their portfolio. Similarly, during the course of performing tune-ups, contractors will make recommendations for replacements and/or repairs, and offer to reserve funds for potential replacements. These will move customers toward more comprehensive services and reduce lost opportunities.
- *Promotional program equipment pricing coupled with rebates and financing instruments*: this delivery strategy is particularly effective in the hotel industry and for small businesses, providing innovative channels for customers to overcome the initial cost barriers of early retirement and energy management systems.
- *Promotional program pricing and coordinated upstream/midstream marketing*: working directly with upstream actors on joint marketing and promotion offers greater program visibility, message reinforcement, and consumer awareness.
- *Coordination with multiple entities (trade associations, utility representatives, other third-party, municipality or special district programs) to market the program through vertical distribution channels*: cross-program and inter-agency marketing will minimize lost opportunities; trade association delivery channels take advantage of industry-specific initiatives toward greener building practices and operations.
- *Partnerships and/or training requirements that move contractors toward improved quality and market transformation while reducing barriers to program participation.*
- *Partnership with ENERGY STAR and promotion of ENERGY STAR recommendations and standards may offer spillover effects on future purchase decisions*.

- *Web site*: extensive consumer information and links on the Program website direct customers toward energy efficiency improvements outside the Program's core features. Customers may contact the Program for additional information or for referrals to the appropriate program or entity.
- *Energy savings calculators*: designed for the 2006-08 Program, these calculators have been adopted by contractors for up selling premium equipment and providing consumers with a quick snapshot of their potential annual savings for retiring inefficient equipment. By providing upstream and midstream actors with simple tools for selling equipment and services, the Program harnesses the power of hundreds of market actors with established customer relationships.

e) Integrated/coordinated Demand Side Management:

As with most HVAC oriented programs, the primary source of integration exists between energy efficiency and demand response activities. At a minimum, all marketing materials developed to support QI and QM subprogram elements will cross promote DR to educate customers on the availability of IOU DR programs. Required contractor training will be designed to include a discussion on DR programs and participating contractors will be required to deliver DR information as part of their customer sales efforts. The IOUs will also explore combined EE and DR opportunities within various HVAC distribution channels.

SDG&E Local Activity
Two of the PTAC/PTHP controller models installed in the SDG&E service area offer customers centralized demand side management and DR capabilities via web-based centralized control of AC units in guest rooms.

f) Integration across resource types (energy, water, air quality, etc):

The program can be designed to support CARB's efforts to regulate GHGs by providing consumer information on the phase-out of existing refrigerants and the move to zero ozone depletion potential (ODP) refrigerants with the customers maintenance invoice. Such information will seek to influence the customer's adoption of newer equipment by explaining the likelihood of increased maintenance costs as existing refrigerants become less available.

g) Pilots:

No pilot programs are planned as part of this subprogram effort, though activities associated with improving QI and/or QM may be piloted before full implementation to ensure more coherent market adoption on roll-out.

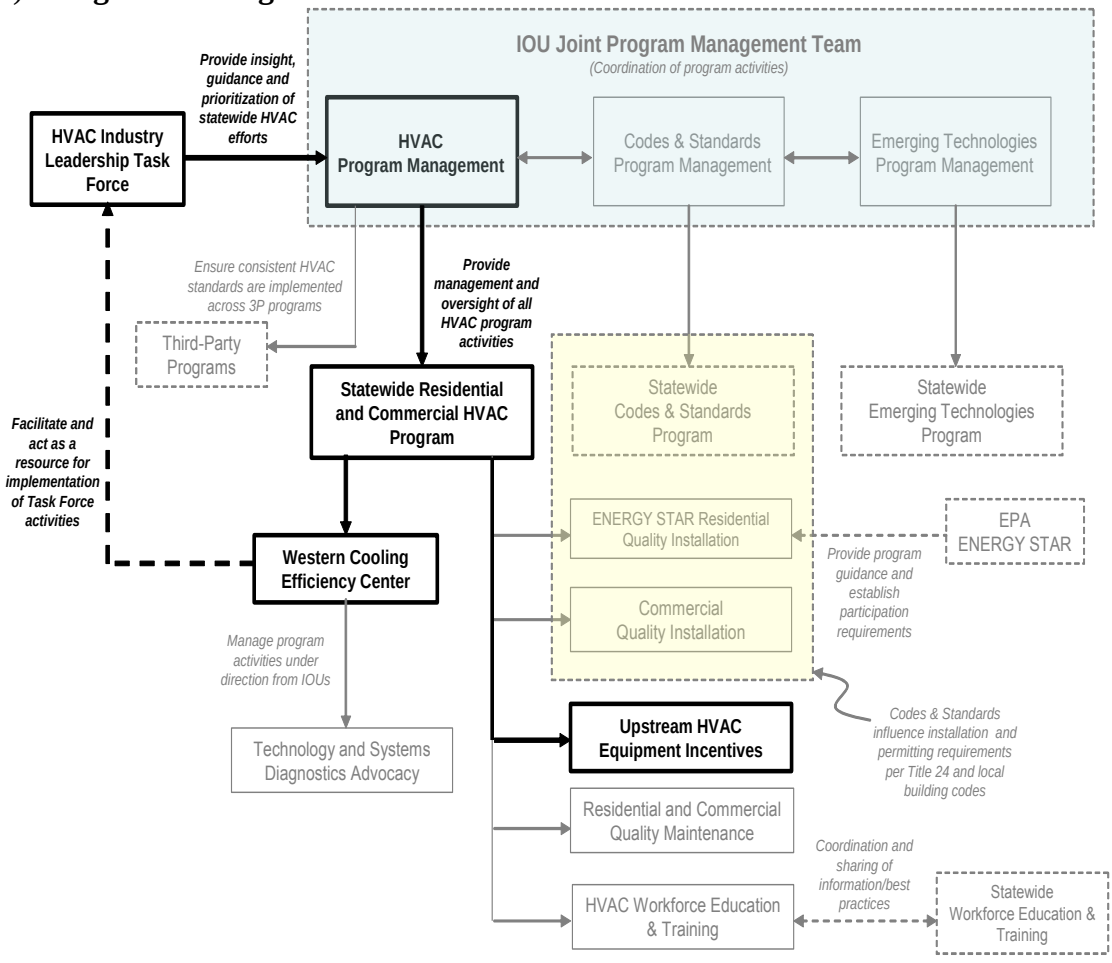
h) EM&V:

EM&V for the Nonresidential HVAC Subprogram will be managed via the EM&V program. To support the continuous improvement envisioned by the adaptive management process and to fully address the intricacies of the program design,

appropriate EM&V activities will be conducted as coordinated by the HVAC EM&V Project Coordination Group (PCG) and overseen by the CPUC.

Routine evaluation: the Upstream subprogram element will utilize the online incentive application system to track the sale of high-efficiency equipment from year to year. Reports can then be created to show the percent of equipment incentivized in tons based on SEER or EER. These reports will be prepared every year and compared to the previous accomplishments, and will determine whether the program is achieving goals.

5) **Diagram of Program**



Program Logic Model

Note: On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas & Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs.

Market Transformation Information

a) Summary of the market transformation objectives of the program:

The Residential HVAC Program is a Statewide program that will continue the transformation process of California's HVAC market to ensure that:

- HVAC technology, equipment, installation, and maintenance are of the highest quality;
- Quality installation and maintenance practices are easily recognized and requested by customers;
- The HVAC value chain is educated and understands their involvement with energy efficiency and peak load reduction; and
- The above changes lead to sustained profitability for HVAC trade allies as the business model for installing and maintaining heating and cooling systems changes from a commodity-based to a value-added service business.

Description of the market, including identification of the relevant market actors and the relationships among them:
The Residential HVAC market for maintenance and installation is largely a market designed to offer these services at the lowest price to meet acute needs, rather than one with product differentiation by quality that is designed to meet the long-term needs of customers in terms of thermal comfort, indoor air quality, and thermal comfort.

The primary market actors are contractors, technicians, and property owners/managers. Contractors manage the firms that provide installation and maintenance. They set the direction for their firms in terms of what services to provide, how to provide them, and how to price them. Technicians actually provide those services. Thus the successful provision of the services depends on the technicians' skill levels as well as how they respond to the constraints imposed on them by contractors. Property owners and managers constitute the demand side of the market. They request and pay for the services provided by the contractors' firms. Renters do not tend to participate in this market.

b) Market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies:

Property owners and managers often lack important information about the cost and value implications of their HVAC decisions, as well about the quality of the work that contractors' firms can perform. That is, there are not clear indicators of quality by which consumers can judge providers, and consumers do not have a well-defined set of goals by which to evaluate the quality of work after the fact. This facilitates a commoditization of HVAC services whereby firms compete based on price and not on

quality, which can lead to a "race to the bottom" mentality in certain segments of the market. This lack of information is exacerbated by the highly technical nature of HVAC maintenance and installation that can confound the efforts of contractors and technicians who are attempting to do high quality work, leading to sub-optimal HVAC system performance in terms of thermal comfort, indoor air quality, and energy efficiency.

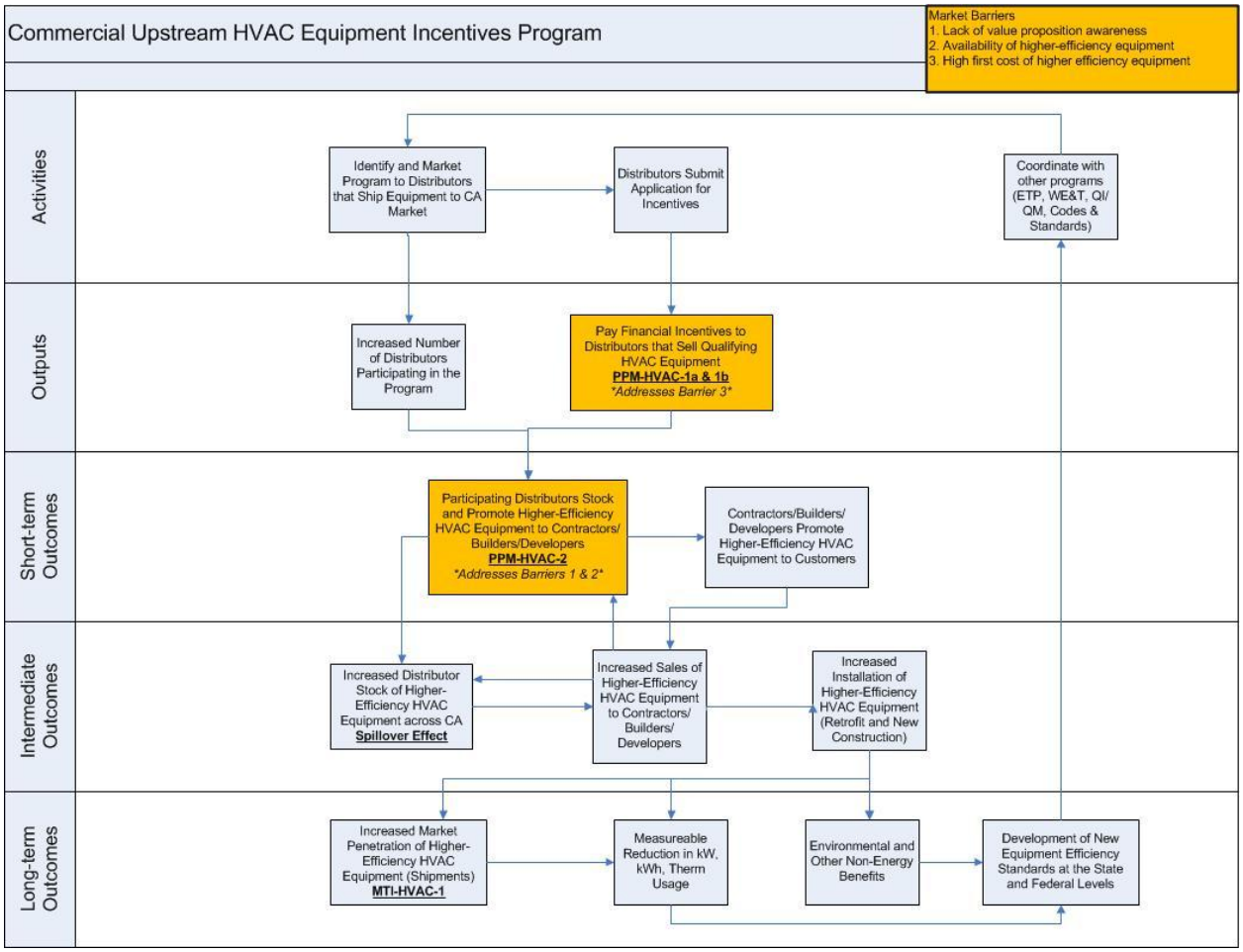
These barriers provide an important opportunity for energy efficiency programs to intervene in the market in a number of ways to facilitate high-quality work. The first is providing a definition of quality through the promotion of standards for installation and maintenance. Second is facilitating a business relationship between contractors and customers to promote high quality, and not just low price. Third, the program can build the skills of technicians who perform maintenance and installation so they are able to implement those services at a high level of quality.

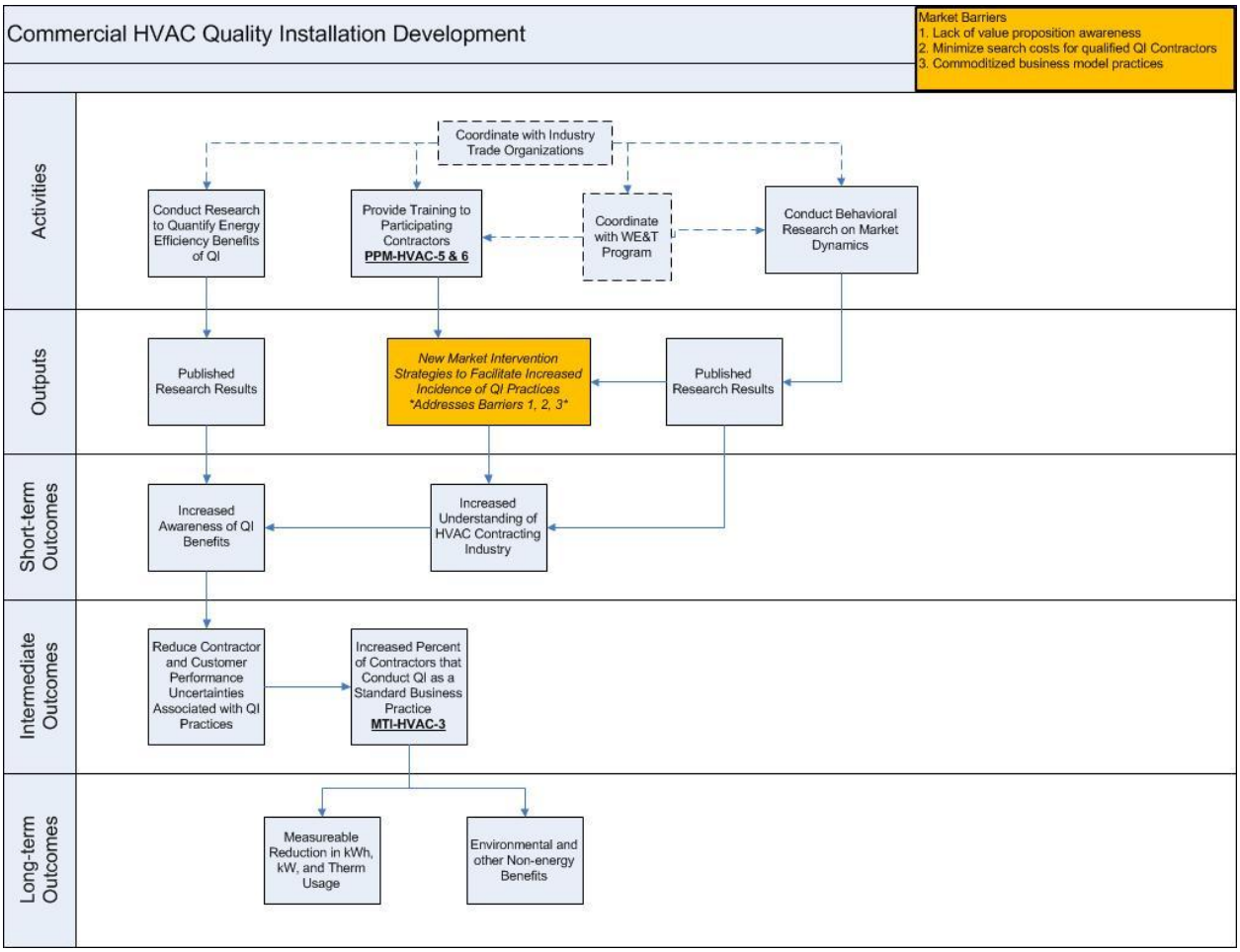
c) Description of the proposed intervention(s) and its/their intended results, including which barriers the intervention is intended to address:

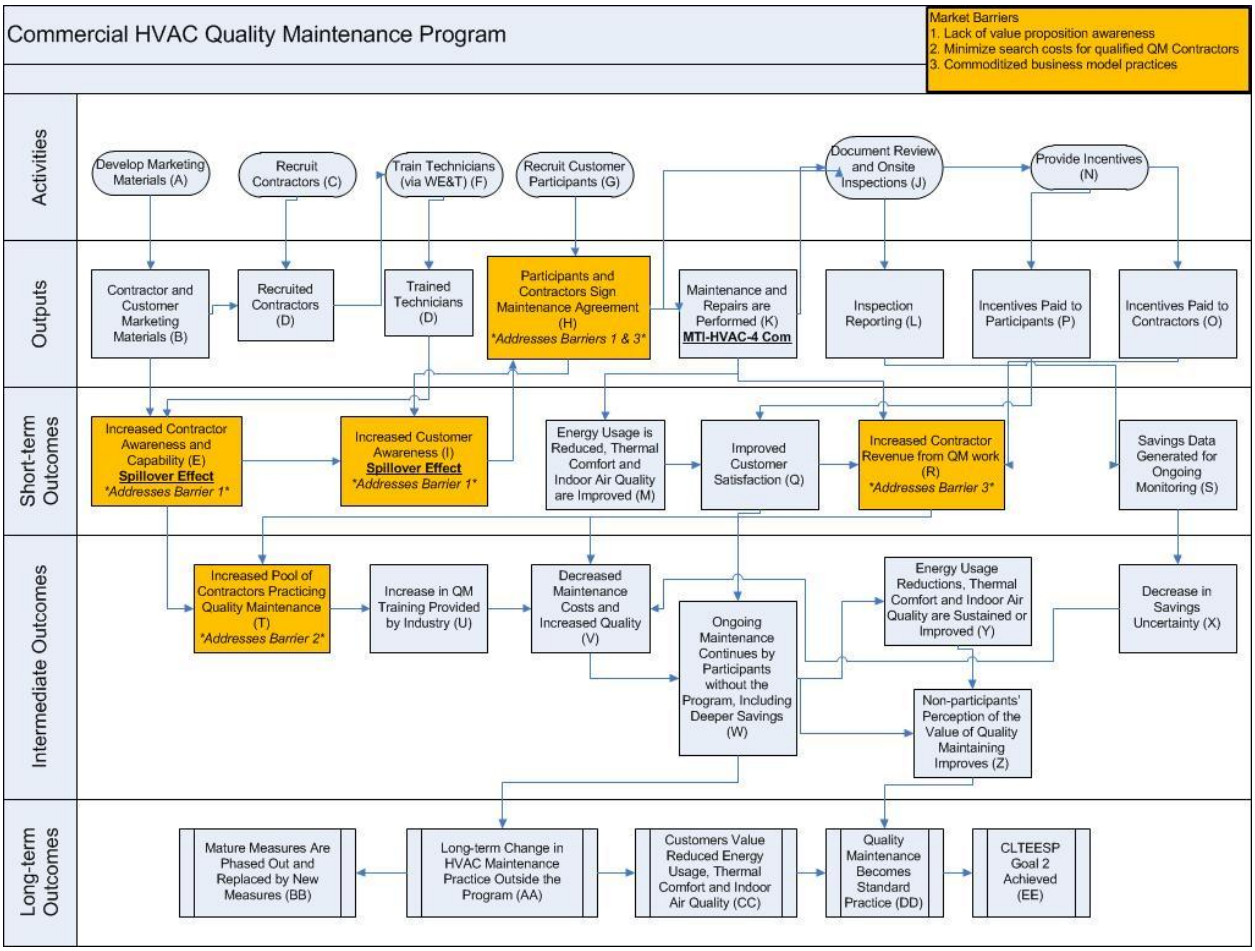
By promoting industry standards for maintenance and installation, the program helps consumers know what the characteristics of a good contractor are. For maintenance, part of this standard is leads the customer and the contractor to define performance guidelines for thermal comfort, indoor air quality, and energy efficiency, helping make clear what the level of quality of work was after the fact. For installation, the standards provide clear performance characteristics through such elements as load calculations. The programs facilitate the creation of an ongoing business relationship between the contractor and the customer. This provides an inducement to the contractors' firms to provide a high-quality service that will bring long-term value to the customer, and thus long-term value to the contractor, rather than rely on winning bids with a lowest price under the assumption that there would be no more business dealings with a customer and so high quality would bring a low return.

Finally, the programs build the skills of technicians. This enables continuing improvement in the quality of work over time. It also provides for spillover as those contractors and technicians can provide higher quality service to their customers even outside the program to reduce energy usage.

d) Program or market logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results:




Commercial HVAC Quality Installation Development
Market Barriers
1. Lack of value proposition awareness
2. Minimize search costs for qualified QI Contractors
3. Commoditized business model practices
Activities
Outputs
Short-term Outcomes
Intermediate Outcomes
Long-term Outcomes
Coordinate with Industry Trade Organizations
Conduct Research to Quantify Energy Efficiency Benefits of QI
Provide Training to Participating Contractors
PPM-HVAC-5 & 6
Coordinate with WE&T Program
Conduct Behavioral Research on Market Dynamics
Published Research Results
New Market Intervention Strategies to Facilitate Increased Incidence of QI Practices
Addresses Barriers 1, 2, 3
Published Research Results
Increased Awareness of QI Benefits
Increased Understanding of HVAC Contracting Industry
Reduce Contractor and Customer Performance Uncertainties Associated with QI Practices
Increased Percent of Contractors that Conduct QI as a Standard Business Practice
MTI-HVAC-3
Measureable Reduction in kWh, kW, and Therm Usage
Environmental and other Non-energy Benefits


Commercial HVAC Quality Maintenance Program
Market Barriers
1. Lack of value proposition awareness
2. Minimize search costs for qualified QM Contractors
3. Commoditized business model practices
Activities
Develop Marketing Materials (A)
Recruit Contractors (C)
Train Technicians (via WE&T) (F)
Recruit Customer Participants (G)
Document Review and Onsite Inspections (J)
Provide Incentives (N)
Outputs
Contractor and Customer Marketing Materials (B)
Recruited Contractors (D)
Trained Technicians (D)
Participants and Contractors Sign Maintenance Agreement (H)
Addresses Barriers 1 & 3
Maintenance and Repairs are Performed (K)
MTI-HVAC-4 Com
Inspection Reporting (L)
Incentives Paid to Participants (P)
Incentives Paid to Contractors (O)
Short-term Outcomes
Increased Contractor Awareness and Capability (E)
Spillover Effect
Addresses Barrier 1
Increased Customer Awareness (I)
Spillover Effect
Addresses Barrier 1
Energy Usage is Reduced, Thermal Comfort and Indoor Air Quality are Improved (M)
Improved Customer Satisfaction (Q)
Increased Contractor Revenue from QM work (R)
Addresses Barrier 3
Savings Data Generated for Ongoing Monitoring (S)
Intermediate Outcomes
Increased Pool of Contractors Practicing Quality Maintenance (T)
Addresses Barrier 2
Increase in QM Training Provided by Industry (U)
Decreased Maintenance Costs and Increased Quality (V)
Ongoing Maintenance Continues by Participants without the Program, Including Deeper Savings (W)
Energy Usage Reductions, Thermal Comfort and Indoor Air Quality are Sustained or Improved (Y)
Decrease in Savings Uncertainty (X)
Non-participants' Perception of the Value of Quality Maintaining Improves (Z)
Long-term Outcomes
Mature Measures Are Phased Out and Replaced by New Measures (BB)
Long-term Change in HVAC Maintenance Practice Outside the Program (AA)
Customers Value Reduced Energy Usage, Thermal Comfort and Indoor Air Quality (CC)
Quality Maintenance Becomes Standard Practice (DD)
CLTEESP Goal 2 Achieved (EE)

2013-2014 PIP Addendum

Program Name	Healthcare Energy Efficiency Program	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** Healthcare Energy Efficiency
Program ID Number:
Program type: Third-Party Program

2) **Projected Program Budget Table**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3218	SW-COM-Customer Services-Audits Healthcare Energy Efficiency (HEEP)	$28,040	$2,600	$1,335,003	$0	$1,365,642

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3218	SW-COM-Customer Services-Audits Healthcare Energy Efficiency (HEEP)	0	0	0

This is a non-resource program. The savings achieved as a result of this program will be reported to the CPUC under COMPANY's other EE programs.

4) **Program Description**

a) Describe program

This third party program will help facilitate SDG&E's implementation of the Statewide Commercial Program, Customer Services Subprogram.

The Healthcare Energy Efficiency Program (Program) aims to deliver significant, measurable energy savings in one of the state's heaviest energy use sectors, healthcare. The Program was created to address the complex issues of the healthcare industry's hesitancy to adopt energy efficiency behaviors, initiate facility upgrades, and achieve cost-effective energy savings.

Eligible Program customers will include:

- Hospitals, acute, outpatient, free-standing trauma centers or community clinics.
- Alcohol and detox rehabilitation centers or facilities, including residential;
- Psychiatric and counseling facilities;
- Medical and other healthcare-related office buildings and storage structures;
- Dental, eye-care, physical therapy offices and clinics;
- Convalescent hospitals and extended care facilities;
- Hospices and related facilities.

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

- Any facility that provides services to patients or clients which is eligible for Medicare, Medi-Cal, or county health insurance reimbursement.
- Facilities engaged in animal or veterinary care or services, and
- Other facilities within NAICS codes include 623220, 622210, 621420, 541940, 622310, 622110, 622310, 623210, and 621493.

The following bullets outline the steps to program delivery and implementation:

- **Marketing Implementation:** The Program team will use a variety of marketing strategies including: a) the extensive network and communications channels already developed by the Contractor, b) new media tools to reach potential customers, and c) local contractors with established relationships with SDG&E healthcare customers.
- **Enroll customers:** As a targeted sector program effort, the Program's marketing efforts will be personal and extensive, while the technical approach will be focused on the whole building. Staff will thoroughly analyze each prospective site for energy efficiency, demand response, and renewable energy opportunities and encourage customers to pursue all cost-effective measures.
- **Install Energy Efficient Hardware and Projects:** The Program team will work with each client to complete the following tasks:
  - **Project Identification.** Program staff will coordinate project identification and comprehensive audits of targeted medical facilities. All projects, including those that are state-regulated will be evaluated.
  - **Project Review and Prioritization**. The review will identify the highest "value" incentive targets through pre-audit discussions.
  - **Detailed Audit.** Phase I and II audits will be offered to customers to provide varying details related to potential energy saving project opportunities.
  - **Project Approval.** All projects must meet program criteria, which will be finalized with SDG&E staff. The Program team will defer to the customer for contractor selection.
  - **Project Implementation.** Qualifying retrofit projects will consist of deemed measures, calculated measures, and emerging technologies – all of which will be implemented in a comprehensive manner. Commissioning will also be completed with applicable retrofit projects.
  - **Incentives Processing.** Help customers apply for rebates or incentives.
  - **Post-Installation Verification and Measurement & Evaluation Coordination**. After implementation is completed, 100% of the projects will be verified.
  - **Remedy Installation Issues.**
  - **Payment of Incentives.** The final incentive amount for each project will be determined by the program implementation team and will depend on project cost, financing options, energy and demand savings, and resource program utilized.
- **Invoice and report completed projects:** Invoices will be sent to SDG&E on a monthly basis and based on tasks outlined in the "Scope of Work" document. On a monthly basis, or as stipulated by SDG&E, the Contractor will submit a Program Narrative, in the required format and comma-separated flat files, including all data

elements specified.

- **Perform customer feedback surveys**: Surveys will allow participants to comment on the Program and the contractor. Surveys will be conducted either by email, mail or by telephone. The results of the survey will be entered into the database management tool.
- **Address and resolve customer issues:** The Program team will endeavor to resolve all customer complaints by responding to issues and/or complaints within ten businesses days.
- **Ramp down and close Program**: It is estimated that the Program will begin ramping down by October 2014. Timelines will be communicated to customers by mail and online. Any remaining customer issues will be followed up within 30 days of Program shut down. The Program website will be open for any remaining customer issues. **Submit Final Program Report:** After the Program shuts down, and all follow-up issues having been completed and resolved, Program staff will submit a final report that reviews the Program's progress and accomplishments.

b) List technologies

The Program is a comprehensive retrofit program that will include, but not limited to, the following measures:

- HVAC, appliance, and other upgrades;
- Comprehensive lighting;
- Building retro-commissioning;
- Thermosorber absorber/heat exchangers;
- Boiler tune-ups;
- Steam traps;
- Pipe and tank insulation;
- Cool roofs;
- HVAC motor upgrades;
- Variable frequency drive motors – on VAV fans;
- Variable speed drives for chilled water loops;
- Variable speed drives for hot water loops;
- LED exit signs, and
- Server virtualization.

As a comprehensive program, there may be other emerging technologies available to customers that are not listed. For those, the program will provide complete technical documentation to the SDG&E technical staff. Audits will also identify demand response and renewable/solar energy projects; these potential projects will be communicated to SDG&E who will take these opportunities and work directly with the customer for evaluation and eventual adoption.

c) List non-incentive customer services

The Program is a full-service, one-stop energy efficiency resource for healthcare customers. In addition to incentives, the Program also provides:

- Energy efficiency audits;

- Pre- and post-installation inspections, and
- Customer satisfaction surveys.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information: This section is not applicable.
b) Market Transformation Information: This section is not applicable.

c) Program Design to Overcome Barriers

Healthcare facilities in California are confronted with complex barriers that prevent the adoption of energy efficiency practices and achievement of significant energy savings. Some of these barriers include:

- Financial. The current economic situation and competing financial priorities, such as Senate Bill 1953 requiring seismic upgrades, prevent investment in energy efficiency. As additional hurdles, healthcare organizations face extreme pressure because of reduced reimbursement from government and insurance programs, rising costs for pharmaceuticals and new technologies, increased staff turnover, heavy regulatory requirements, and rising operational costs.
- Relatively Low Cost of Energy. It is estimated that energy costs may represent 40-60 percent of a hospital's total facility operating budget; however, this comprises only 1-3 percent of total institutional costs. With these levels, senior management generally has not implemented extensive energy efficiency retrofits or upgrades.

Barrier	Solution
Lack of financing for energy efficiency improvements	This program will cross-promote On Bill Financing as a way to reduce the capital outlay required for most energy efficiency projects. In addition, it will provide attractive incentives consistent with SDG&E's Programs.

a) Quantitative Program Targets

Table 3

Healthcare Energy Efficiency	Program Target by 2013	Program Target by 2014	Program Target Totals
Outreach to customers			
Forward demand response or solar opportunities found at target facilities			
Conduct audits at medical office buildings or other non-hospital eligible customer facilities.			

Notes: Values provided represent yearly targets. This is a two-year program.

b) Advancing Strategic Plan Goals and Objectives

This Program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
By using an audit-based approach to identify savings opportunities in healthcare facilities that will be undergoing retrofits due to seismic regulations, the program is innovatively developing tools and strategies to reduce energy consumption in commercial buildings	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.	2-5: Develop tools and strategies to use information and behavioral strategies, commissioning, and training to reduce energy consumption in commercial buildings.
In incorporating identification of demand response and renewable energy projects with energy saving opportunities, the program helps expand utility efforts to integrate the full range of DSM options into programs	Coordination	Deliver integrated DSM options that include efficiency, demand response, energy management and self generation measures, through coordinated marketing and regulatory integration.	1-3: Develop integrated DSM programs across resources, including energy, water, and transportation.

6) Program Implementation

a) Statewide IOU Coordination:

i. Program name
ii. Program delivery mechanisms
iii. Incentive levels
iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
vi. Similar IOU and POU programs

The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party

programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

Although the Program only has been in SDG&E territory since 2008, it has been a successful program in SCE's territory since 2006. In 2013, the Program was also launched in PG&E's territory. Offered statewide, this Program will coordinate across utilities to assure that healthcare organizations with facilities throughout the state can implement their energy efficiency efforts and work with one single point regardless of utility boundaries. Incentives and marketing materials will be customized per utility based on core program incentive rates and utility branding guidelines.

The objectives of the Program match the areas of emphasis the CEC identified in the 2008 CEC Energy Action Plan, in particular, "[to] develop comprehensive, long-term strategies for sustainable energy efficiency savings to achieve the ultimate goal of making energy efficiency a way of life for Californians." The Program addresses this need by providing a single point of contact to healthcare facilities, which will be encouraged to undertake long-term plans and innovative energy efficiency and demand response projects. The Program will go well beyond simply paying an incentive by bringing technical expertise and design assistance to projects at their earliest stage of inception. In many cases, this early involvement will be the primary driver causing adoption of a higher efficiency alternative. All types of energy efficiency projects will be covered, including retrofits, retro-commissioning, and gas saving measures.

The Program will also coordinate with the California Office of Statewide Health Planning and Development, which regulates many of the construction projects conducted at healthcare facilities. The Program will work with the healthcare facilities to identify which state projects have energy saving opportunities and incentivize those projects.

b) Program delivery and coordination:

i. Emerging Technologies program
Emerging technologies will also be encouraged through the measured savings approach.

ii. Codes and Standards program
Not applicable to this third-party program.

iii. WE&T efforts
Not applicable to this third-party program.

iv. Program-specific marketing and outreach efforts (provide budget)
Not applicable to this third-party program.

v. Non-energy activities of program
Not applicable to this third-party program.

vi. Non-IOU Programs

Program staff will closely coordinate this Program with other utility and non-utility programs to maximize effectiveness. These programs include, but are not limited to, the Energy Efficiency Business Incentives Program (previously known as the Standard Performance Contract Program), the Energy Efficiency Business Rebates Program (previously known as the Express Efficiency Program), the Building Operator Certification Program, Retro-commissioning Program, and the CEC's Enhanced Building Automation Program.

vii. CEC work on PIER

Not applicable to this third-party program.

viii. CEC work on codes and standards

Not applicable to this third-party program.

ix. Non-utility market initiatives

Not applicable to this third-party program.

c) Best Practices

The Program will incorporate a variety of best practices, including:

- Program Theory and Design: The Program has a sound program plan, linking its strategic approach to policy objectives and constraints, and maintaining program design flexibility to respond to changes in the market and other factors. [2]
- Program Management: The Program has clearly defined program management responsibilities to avoid confusion as to roles and responsibilities and will use a well-qualified engineering staff.
- Program Reporting and Tracking: The Program will define and identify key information needed to track and report early in the program development process and has designed program tracking systems to support the requirements of utility, evaluators and Program staff.

d) Innovation

This Program may be considered innovative based on the composition of the team. The team is comprised of members with the following complimentary skills: energy efficiency savings deliver experience, healthcare facilities expertise, and hospital project experience. Together, the Program team is made up of highly qualified professional organizations that have direct experience with this industry and understands their operations and hurdles towards energy efficiency implementation.

e) Integrated/Coordinated Demand Side Management

This Program supports the ideals of integrated demand-side management by encouraging customer adoption of a variety of energy efficiency and other energy-related measures. Lost opportunities will be minimized by using a whole building/system approach during the initial audit phase. The Program will focus on the retrofit and commissioning

[2] See Volume S – Crosscutting Best Practices Report and Project Summary, National Energy Efficiency Best Practices Study, December 2004, pages S14-15.

component of the energy efficiency strategy as well as demand response, new construction, and self-generation opportunities. Information obtained about demand response, new construction, or self-generation activities shall be included in audit report and passed to SDG&E staff for further evaluation.

f) Integration Across Resource Types

Not applicable to this third-party program.

g) Pilots

The Contractor is working with cities in California to initiate a tax assessment district to finance energy efficiency and solar projects for its residents as allowed through A.B. 811. The Program team will educate healthcare facilities in participating communities about this funding option.

h) EM&V

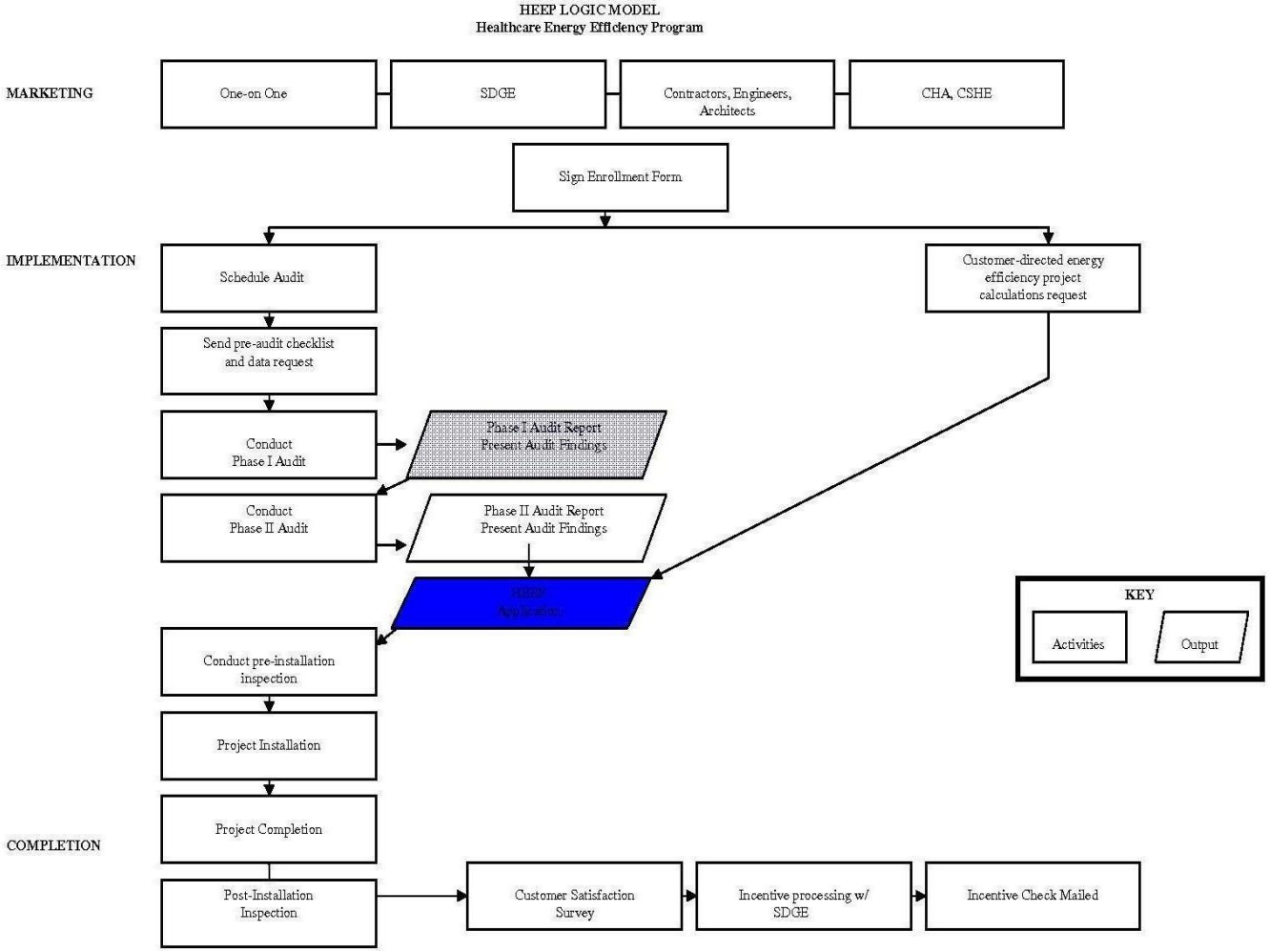
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2013 - 2014 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model

The following logic model is provided to help clarify the program's structure and implementation.



Intergy Corporation

2013-2014 PIP Addendum

Program Name	Lodging Energy Efficiency Program	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID			
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** SDG&E Lodging Energy Efficiency Program
Program ID Number:
Program Type: Third-Party Program

2) **Projected Program Budget Table**
Table 1[1]

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3219	SW-COM-Customer Services-Audits Lodging Energy Efficiency (LEEP)	$28,040	$2,600	$1,415,003	$0	$1,445,642

3) **Projected Program Gross Impacts Table**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3219	SW-COM-Customer Services-Audits Lodging Energy Efficiency (LEEP)	0	0	0

This is a non-resource program. The savings achieved as a result of this program will be reported to the CPUC under COMPANY's other EE programs.

4) **Program Description**

a) Describe program

This third party program will help facilitate SDG&E's implementation of the Statewide Commercial Program, Customer Services Subprogram.

The Lodging Energy Efficiency Program is a comprehensive energy efficiency retrofit program that delivers multi-measure retrofits and retro-commissioning services to medium and large lodging facilities. The Program provides an integrated approach to energy efficiency, demand response and distributed generation specifically tailored to the lodging and motel market segment throughout the SDG&E service territory. The Program focuses on delivering cost-effective energy efficiency savings and the development of demand response and distributed generation opportunities. The Program will provide ENERGY STAR benchmarking to all interested participants and a post-installation savings review to ensure savings persist as a resource that ratepayers can rely upon.

The Lodging Program involves an extensive marketing plan designed to offer the program to all eligible accounts within the SDG&E service territory. A comprehensive energy audit will then be performed at no charge to the lodging account holder. A report will be issued to the lodging/motel operator outlining all recommendations, energy savings, and project economics. Program staff will then coordinate with contractors for the implementation of energy efficiency measures. Once the installation is performed, Program staff will conduct a post-installation

[1] Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

inspection to ensure compliance with guidelines. Staff will then submit appropriate invoices to SDG&E.

Program implementation and delivery will include the following steps:

- Enroll Customers -- Program staff will work with the current lodging customers, the California Hotel and Lodging Association, and SDG&E account staff to identify the highest value targets. The Contractor will implement the marketing plan and utilize the Program marketing materials created to enroll customers that have been screened and identified as qualified.
- Perform Preliminary Program Services -- The team will perform preliminary Program services, which include an analysis of the customer's current energy usage, a cost/benefit analysis, and information about other relevant programs that SDG&E or other third-party providers have that may apply to the customer. At this point, the participant will receive an ENERGY STAR benchmark score of their facility, if requested.
- Installation -- Install energy efficient hardware, submit rebate applications for customers, and/or perform program services.
- Project Implementation -- The contractor will deliver energy savings through the installation of energy efficient hardware and utilization of utility's rebate or incentive program. The retrofit component will consist of deemed measures, calculated measures, and emerging technologies – all of which will be implemented in a comprehensive manner. Commissioning will also be completed with the retrofit projects.
- Post Installation Verification and M&E coordination -- After implementation is completed, 100% of the projects will be verified.
- Payment of Incentives -- The final incentive amount for projects will be determined by the rebate or incentive program utilized and will depend on existing funding, financing options, customer co-pay, project energy and demand savings. Since some large facilities tend to have more complex and varied projects, and to ensure that interactive effects are captured, the majority of the savings will be realized using calculated approaches. Detailed engineering analyses and savings estimates will be provided for the emerging technologies – higher savings based incentive may be offered for these measures. To ensure that contractors maintain the highest quality controls, incentives will be paid to the contractor after installation has been completed and inspected.

The Program will provide all customers with referrals contractors and other resources should the client wish to use them for the implementation of the energy conservation measures. In those cases where the lodging client has their own contractors, Program staff will assist in the coordination of the installations and facilitation of the customer incentives. To this end, the Contractor will train and build capacity with local contractors to work with the lodging industry. Program staff will work with mechanical, lighting, general, and electrical contractors so that they are prepared and able to deliver energy efficiency services to the lodging industry.

<u>In addition to program implementation, the Contractor will provide the following services:</u>

- <u>Invoicing and Reporting (Installation Stage) --</u> Invoices will be sent to SDG&E on a monthly basis. The Contractor will report on the Program monthly, as well as submit invoices based on tasks outlined in the "Scope of Work" document.
- <u>Perform Customer Satisfaction Surveys --</u> Customer satisfaction surveys will be conducted so that participants may comment on the Program and the contractor. The results of the survey will be entered into the database management tool.

- Address Customer Satisfaction Issues – The Contractor will identify any customer satisfaction issues, and work closely with contractors and customers to assure that any issues are appropriately resolved. The Contractor will also provide information of sources for remedy through SDG&E.
- Participate in Educational Events and Trade Shows -- Program staff will participate in events that highlight emerging technologies and trade shows where the lodging industry and contractors avail themselves of information on current products and services. This will enhance the Program marketing efforts as well as provide diverse industries with valuable information on marketing energy-efficiency products and services.

b) List measures (technologies and corresponding incentive levels)

The following measures will be offered to lodging customers, but not limited to:

Measure
Lighting
Retro-Commissioning
Dual speed pool pumps
Package AC replacements
Vending machine controls
Premium efficiency motors
Efficient ice machines
Boiler controls
Boiler and cooking appliance tune-ups
Pipe wrap and other weatherization
Appliance upgrades
Faucet aerators/showerheads

c) List non-incentive customer services

The following non-incentive services are offered to lodging customers by the Program:

- Free comprehensive energy-audit;
- Customer education on energy-efficiency and sustainability;
- Continuous monitoring of installed energy-efficiency equipment;
- Continuous direction to other SDG&E and local water board incentives;
- Water conservation advice and education, and
- Information on loans specific for energy-efficiency projects.

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Information:
This section is not applicable.

b) Market Transformation Information:
This section is not applicable.

c) Program Design to Overcome Barriers:

Smaller lodgings have indicated that they normally lack the budget to replace their older heating, ventilation, and air conditioning systems with newer units and have been confined to replacing these as their useful life comes to an end. Even then, the operators have indicated that they have not purchased the ENERGY STAR models due to their marginal higher cost.

Barrier	Solution
Lack of consumer awareness of energy inefficiencies and how to correct them	The Program will work closely with all stakeholders in the lodging/motel market sector.
Lack of financing for energy efficiency improvements	This Program will provide incentives for lodging facilities to implement energy efficiency measures.

d) Quantitative Program Targets:

Table 5

Lodging Energy Efficiency	Program Target by 2013	Program Target by 2014	Program Target Totals
Number of Energy Audits			
Lodging Customers Contacted			

Note: Values provided represent yearly targets. This is a two-year program.

e) Advancing Strategic Plan goals and objectives:

This Program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
By using ENERGY STAR benchmarking, the Program is utilizing a tool that encourages behavioral changes and measure installation.	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.	2-5: Develop tools and strategies to use information and behavioral strategies, commissioning, and training to reduce energy consumption in commercial buildings.
Program provides a platform for delivering comprehensive multi-measure retrofits and retro-commissioning.	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.	2-7 Develop business models and supplier infrastructure to deliver integrated and comprehensive "one-stop" energy management solutions
Program facilitates incorporation of emerging technologies.	Heating, Ventilation, and Air Conditioning	New climate-appropriate HVAC technologies (equipment and controls, including system diagnostics) are developed with accelerated marketplace penetration.	4-3: Accelerate market penetration of advanced technologies by HVAC industry promotions and updating/expanding current utility programs to include the new technologies as appropriate.
Program utilizes whole building audits to identify multiple resource savings opportunities - EE, DR, water.	Coordination	Deliver integrated DSM options that include efficiency, demand response, energy management and self generation measures, through coordinated marketing and regulatory integration.	1-3: Develop integrated DSM programs across resources, including energy, water, and transportation.

Program facilitates incorporation of emerging technologies.	Research & Technology	Conduct targeted emerging technologies R&D to support the Big, Bold Energy Efficiency Strategies/Programmatic Initiatives and integrated energy solutions goals.	2-4: Develop initiatives aimed at emerging technologies to support Big Bold Initiatives.

6) **Program Implementation**

a. Statewide IOU Coordination:

i. Program name
ii. Program delivery mechanisms
iii. Incentive levels
iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
vi. Similar IOU and POU programs

The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

Program staff will promote lodging efficiency to the contacts made both in the SCE and PG&E service territories in an effort to provide extensive coverage to all chain accounts and members of the statewide lodging associations. This will greatly facilitate our marketing efforts for the benefit of all three lodging energy efficiency programs operating in California.

To promote the sustainability of the Lodging Energy Efficiency Program and its brand, Program staff will work with several other agencies both local and state, to further the goals of this Program consistent with the vision of the California Energy Commission. This will ensure that energy efficiency considerations take an active role in any remodeling or reconstruction projects that may involve other agencies.

This Program will also be promoted as an effort to improve our air and water quality by reducing greenhouse gas emissions of and other pollutants via energy conservation. To this end, the Program will collaborate with the California Air Resources Board and the Air Quality Management Districts as a vehicle to facilitate the goals of these agencies in the lodging market sector.

Program staff will work to cross promote other energy conservation programs offered by SDG&E in order to optimize the penetration of the portfolio of energy efficiency programs that may serve the lodging industry. Program staff will work with the SDG&E Account Executives to ensure that lodging customers are familiar with all programs that may be of benefit to them.

In addition, Program staff will work with all local water agencies within SDG&E service territory to leverage resources for water conservation, which in most cases results in natural gas savings. The various rebates offered by these water agencies will also be offered to the lodgings particularly in those measures that result in gas savings.

b. Program delivery and coordination:

i. Emerging Technologies program

The 2013 - 2014 Program staff will work with the Emerging Technologies Coordinating Council in order to streamline and facilitate the latest technology to the lodging industry. The Contractor will provide feedback to the Council on formulating best practices in working with the lodging industry. This will establish an effective guide on working with the lodging industry that can be adopted statewide and extended to other targeted market sectors.

ii. Codes and Standards program

Program staff will work closely with several other Third-Party and core programs to facilitate a comprehensive cadre of services to the lodging customers. This will ensure that all possible energy conservation opportunities are presented to the customer and that each measure is supported by an SDG&E incentive. Furthermore, the Program will be outreaching to other utility and non-utility bodies that also have an interest in energy conservation and the reduction of greenhouse gas emissions. This will include coordinating with the Codes and Standards program.

iii. WE&T efforts

Program staff will work closely with several other Third-Party and core programs to facilitate a comprehensive cadre of services to the lodging customers. This will ensure that all possible energy conservation opportunities are presented to the customer and that each measure is supported by an SDG&E incentive. Furthermore, the Program will be outreaching to other utility and non-utility bodies that also have an interest in energy conservation and the reduction of greenhouse gas emissions. This will include coordinating with the WE&T efforts.

iv. Program-specific marketing and outreach efforts (provide budget)

The Contractor will initiate a marketing campaign employing site visits (in-person, door-to-door visits with SDG&E staff), California Hotel and Lodging Association and other program partner membership/business relationship networking, and community networks of local organizations, agencies, and business associations to cost-effectively reach hospitality owners within SDG&E's territory.

The marketing plan will leverage: 1) the existing lodging efficiency program in SDG&E's territory and the PG&E Lodging Savers Program to target large and medium lodging customers; 2) work closely with Account Representatives to access lodging staff and distribute information to the lodgings; and 3) leverage California Hotel and Lodging Association and the Asian-American Hotel Owners Association to distribute information to the targeted lodgings and make them aware about the Program. Program marketing personnel will explore communication channels through the associations to provide awareness to members and contractors working with the lodging industry. Examples might include a news release announcement and display ad for placement in the associations' newsletters and on their websites, and participation in their annual conferences.

A cornerstone of the marketing plan is a simple message explaining the savings and environmental benefits of the Program, as well as a discussion of targeted goals. The plan will utilize several marketing platforms for relaying this dialogue, including:

- Direct customer communications via the media;
- Customer service hotlines;
- Information on SDG&E's website;
- Utility bill inserts and direct mail, and
- Hard-to-reach and non-English speaking customer markets will be reached via specialized marketing and networking efforts, including multi-language marketing collateral, community association solicitations, and/or referrals from other SDG&E programs.

The marketing plan will pursue three parallel tracks to enroll customers in the Program. The first track will be to engage the lodging associations with whom team members have existing long-standing, professional relationships. The second track will involve a general awareness marketing campaign with the leading membership associations representing the target market. A third track will primarily include working closely with SDG&E Account Executives to further initiate/build enrollment. The Program expects to enroll an estimated 20 large lodgings.

v. Non-energy activities of program
Not applicable to this third-party program.

vi. Non-IOU Programs
Program staff will work closely with several other Third-Party and core programs to facilitate a comprehensive cadre of services to the lodging customers. This will ensure that all possible energy conservation opportunities are presented to the customer and that each measure is supported by an SDG&E incentive. Furthermore, the Program will be outreaching to other utility and non-utility bodies that also have an interest in energy conservation and the reduction of greenhouse gas emissions. This will include coordinating with the CARB, AQMD, and other non-utility market initiatives.

vii. CEC work on PIER
The Program will work closely with the California Energy Commission's Public Interest Energy Research Program (PIER) to leverage additional resources for customers. This will provide our lodging customers with additional opportunities for integrating newer energy-efficient technologies and for conducting energy-related research projects.

viii. CEC work on codes and standards
Not applicable to this third-party program.

ix. Non-utility market initiatives
Initiatives established by the State of California to reduce greenhouse gas emissions (GHG) will be one of the centerpieces for the marketing of the Lodging Energy Efficiency Program. Although most utilities have subscribed to the correlation between energy consumption and GHG emissions, it will be the goal of 2013 - 2014 Program to further underscore this relationship. GHG reductions resulting from energy savings will be incorporated in all marketing material including brochures, flyers, and this message will be further emphasized when meeting face-to-face with customers. Energy savings reports based on facility audits will also include information on GHG emission reductions that are possible with the implementation of energy efficiency measures.

c. Best Practices:

This Program incorporates a variety of best practices, including:

- Program Theory and Design: The Program has a sound program plan, links its strategic approach to policy objectives and constraints, and maintains program design flexibility to respond to changes in the market and other factors.
- Program Management - Project Management: The Program has clearly defined program management responsibilities to avoid confusion as to roles and responsibilities and will use well-qualified engineering staff.
- Program Management - Reporting and Tracking: The Program will define and identify key information needed to track and report early in the program development process and has designed program tracking systems to support the requirements of evaluators as well as program staff.
- Effective Marketing Strategies - The Program will incorporate the most effective marketing strategies and will implement the "lessons learned" from the 2008 Program, as well as those from the 2006-2008 Lodging Savers Program in the PG&E service territory.

d. Innovation:

The proposed Program includes several innovative features that create a comprehensive approach to overcoming the barriers we find in the field. These features address each target area in a way that brings synergistic value to the solutions:

- A multi-channel marketing process to market energy conservation measures to owners will quickly fill the program pipeline with projects.
- The 3rd party will provide extensive project-management assistance to owners to keep the projects moving to completion.
- A process that focuses on energy savings and spends additional effort helping owners implement measures.

e. Integrated/coordinated Demand Side Management:

This Program supports the ideals of integrated demand-side management by encouraging customer adoption of a variety of energy efficiency and other energy-related measures. The Contractor understands that the IOUs are facing a challenge to adopt and integrate a statewide energy efficiency strategic plan that not only hits the long-range, programmatic initiatives envisioned by CPUC commissioners, but one that is workable with the current portfolios and delivers shareholder value. Addressing the lodging sector for gas and electricity, this Program realizes the CPUC's vision by spurring market awareness, increasing the energy efficiency practices, and allowing for continuous integration and expansion of green building practices for solidifying a constant sustainability model within the lodging industry. The combination of realistic energy savings goals, accurate tracking, customer education, and financial incentives will encourage measurable energy savings.

f. Integration across resource types.

Consistent with CEC expectations of Third-Party Programs, Program staff will work with other resource conservation interests including the various air quality regulatory bodies and water agencies. Specifically, the Contractor will identify and establish relationships with key liaisons from the California Air Resources Board, the Air Quality Management District, Metropolitan Water District of Southern California, and the various water providers that serve the San Diego area. Program staff will cross promote water conservation and air quality improvement efforts and participate in events organized by these other agencies. Program field staff will be familiar with other incentive programs offered for water conservation and impart this information to lodging clients.

Program staff will also work with various governmental councils such as the Southern California Association of Governments to promote awareness of this Program and other incentive programs offered by SDG&E. Other groups that will be targeted are the various Councils of Governments that may be representing geographical areas within the SDG&E service territory. Often these councils and associations have committees that deal with energy and water conservation matters. These committees will be powerful advocates in helping spread the word in the energy conservation efforts targeting the lodging industry.

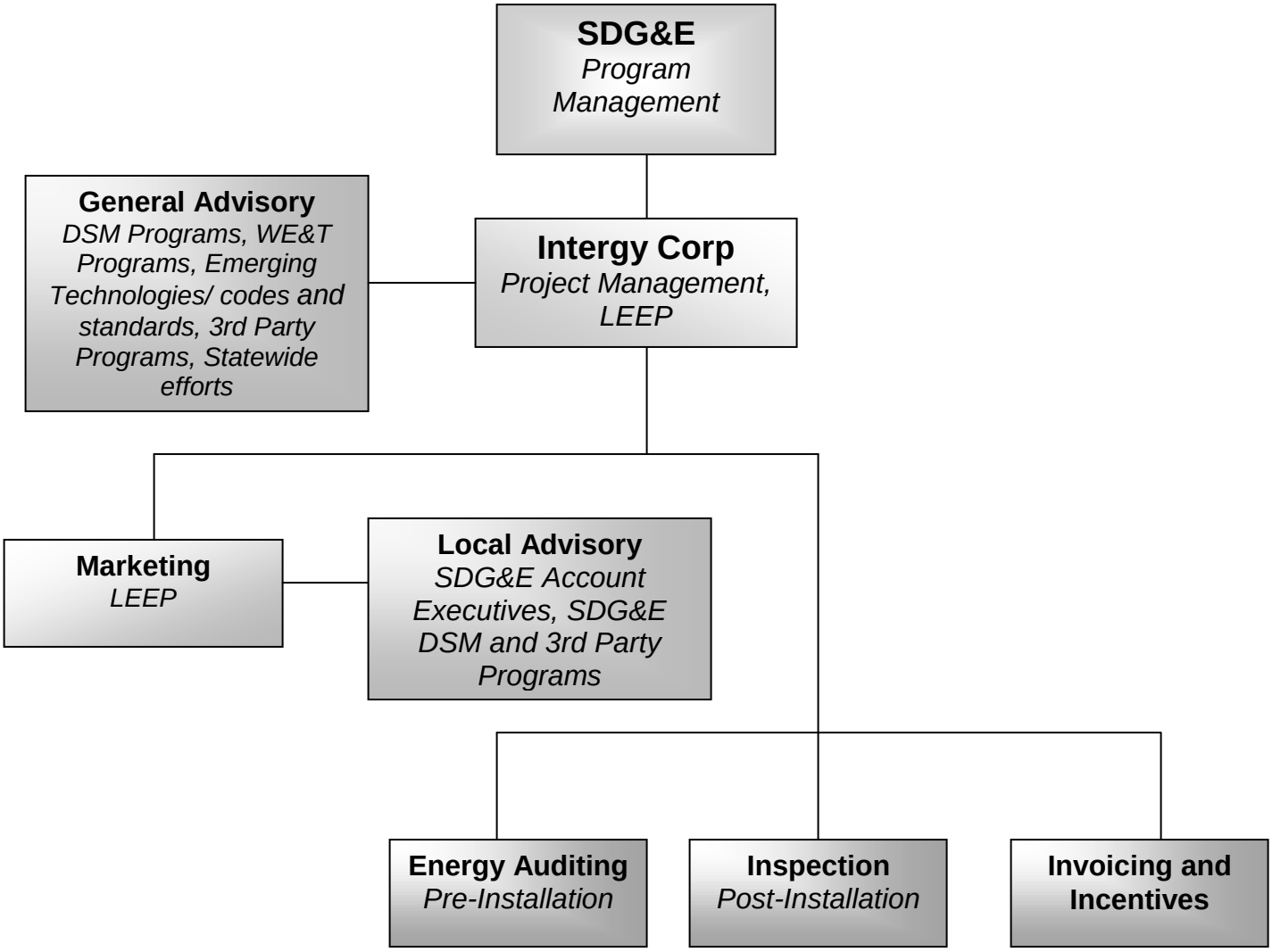
g. Pilots:

This Program is not planning any pilots.

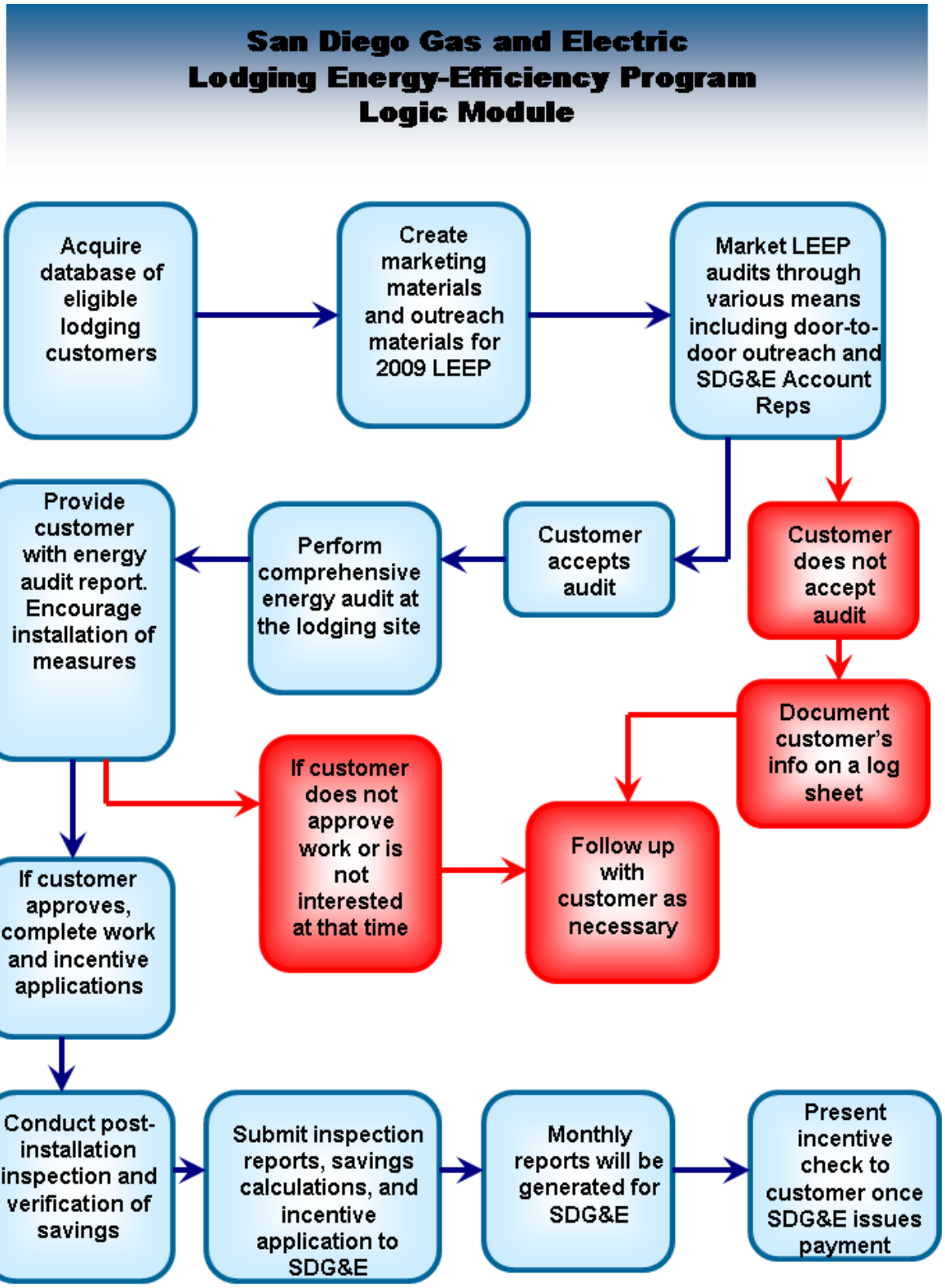
h. EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2013 - 2014 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) **Diagram of Program**



8) **Program Logic Model**



1) **Program Name:** Commercial Direct Install
Program ID:
SDG&E Program Type: Third Party Program

2) **Projected Program Budget Table**
Table 1

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3226	SW-COM Direct Install	$33,135	$0	$892,382	$16,957,511	$17,883,028

3) **Projected Program Gross Impacts Table – by calendar year**
Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3226	SW-COM Direct Install	7,471	31,552,937	21,504

4) **Program Description**

a) Describe Program

The Direct Install sub-program delivers free and low cost energy efficiency hardware retrofits through installation contractors to reduce peak demand and energy savings for small commercial customers. The program targets small businesses in a staged delivery approach that provides program services in specific geographic areas at different times allowing for a more concentrated, directed, and yet comprehensive program.

In response to a variety of recommendations, SDG&E will incorporate the following changes into the 2013-2014 Commercial Direct Install program:

- The Process Evaluation Study conducted by the Heschong Mahone Group recommended that SDG&E's Direct Install program incorporate the promotion of other SDG&E programs into the implementation contractors' contracts. This will be a key feature of the 2013-2014 contracts to ensure more comprehensive projects.
- The Market Potential Study indicates that Advanced Generation (premium) T8s is the technology with some of the largest potential within SDG&E's service territory. Given that the baseline for linear fluorescents shifts to T8s in 2015, the program will be modified to place a heavy emphasis on installation of Premium T8s in 2013-2014.
- Consistent with Ordering Paragraph 71, the Direct Install program has worked actively with a number of Business Improvement Districts during the current cycle to increase local community involvement and raise the program's profile among BID businesses. This effort will continue during the 2013-2014 cycle with a concerted effort to partner with SDG&E's Local Government Program and multiple BIDs to increase the number of BID customers involved in the Direct Install program.

b) List of Measures

Direct Install will implement selected measures at reduced or no or low cost to the customer. Low cost measure opportunities will be targeted to small commercial customers. Eligible measure types include but are not limited to:

- Lighting
- HVAC
- Refrigeration

c) List Non-incentive Customer Services

The sub-program provides a complete turnkey solution for the customer, including equipment purchasing, installation, clean-up and disposal. In addition, information about the installed measures is provided to the customer that explains the energy efficiency benefits they received and proper operation and maintenance practices to ensure sustained performance.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Indicators (MTIs)

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application, using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies should (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Indicators (MTIs)
See Section 1a.5.a.

c) Program Design to Overcome Barriers

Small businesses are a significant source of untapped energy-efficiency potential. The primary barriers to participation include limited capital resources, lack of expertise and understanding of the benefits of energy efficiency, a suspicion of the "free offer" and its legitimacy, and language and cultural barriers.

In addition, the majority of these customers occupy short-term leased facilities. Consequently, there is also a split incentive barrier to adoption of energy efficiency improvements. Split incentives occur when the customer and owner do not own the same equipment they pay bills for (e.g., the landlord owns the HVAC equipment and the customer pays utility bills for it, or vice versa). The program makes every effort to address this situation with both the owner/property management company and the tenant to communicate the benefits and gain approval for program services. The no cost offering makes this acceptance of the retrofit easier for the tenant.

While these small customers may be eligible for other elements such as the itemized retrofit incentive, the primary barriers beyond some cost reduction to participation by very small and small commercial customers are not addressed by that program. The No-Cost/Low Cost Installation element addresses these barriers by providing all equipment and installation services at no or very little charge to the customer.

The Program utilizes a collaborative team of internal and external stakeholders to conduct strategic program outreach and marketing. Working with our External Affairs Outreach group the Direct Install program has worked actively with a number of Business Improvement Districts and local governments during the current cycle to increase local community involvement and raise the program's profile among BID businesses. This effort will continue during the 2013-2014 cycle with a concerted effort to partner with Local Government Programs and multiple BIDs to increase the number of BID customers involved in the Direct Install program.

Additionally, the Program has team members fluent in the languages spoken and familiar with the cultures in its territory to pro-actively working to bridge cultural and language barriers to understanding the benefits of energy efficiency, overcoming the suspicion of the "free offer" and its legitimacy.

d) Quantitative Program Targets

The Commercial Direct Installation Program has program targets defined within each direct install vendor contract.

e) Advancing Strategic Plan goals and objectives

In accordance with the Strategic Plan, this sub-program advances comprehensive energy efficiency, including:

- Integrating marketing and outreach to the commercial customer sector
- Integrating the approach to better maximize savings and minimize lost opportunities
- Identifying the most promising technologies that can play a role of providing multiple solutions, for energy efficiency.
- Cross-promoting other energy efficiency (e.g., Workforce, Education & Training) and demand response programs.

6) **Program Implementation**

a) Statewide IOU Coordination

All California IOUs offer The Direct Install efforts. Specific areas of coordination include:

i. Program name

Commercial Direct Install

ii. Program delivery mechanisms

Third-party contractors will be used to perform program services such as customer outreach, survey existing equipment, explain and promote retrofits, and perform retrofit installations for customers and coordinates services performed by the Community-Based Organizations (CBOs).

iii. Incentive levels

The sub-program does not pay a rebate or incentive to the direct install customer. Payments are made to the direct install vendor who employs said incentives to reduce the cost of delivering energy efficiency services. The products and installation of products are at reduced cost or free to the customer.

iv. Marketing and outreach plans

The sub-program is designed to increase the adoption of energy-efficient measures by small and hard-to-reach commercial customers through offering energy efficiency assessments, energy efficient equipment and installation to small business customers at no or low cost. Marketing efforts undertaken will be targeted based on customer size and demographics. Program interactions include working closely with Faith Based and Community Based Organizations as job development partners, creating and providing jobs in addition to the contract deliverables. This provides a partnership in the community that otherwise would not have engaged.

Additionally, the Program utilizes a collaborative team of internal and external stakeholders to conduct strategic program outreach and marketing. Working with our External Affairs Outreach group the Direct Install program has worked actively with a number of Business Improvement Districts and local governments during the current cycle to increase local community involvement and raise the program's profile among BID businesses. This effort will continue during the 2013-2014 cycle with a concerted effort to partner with Local Government Programs and multiple BIDs to increase the number of BID customers involved in the Direct Install program.

v. IOU program interactions

The sub-program will coordinate its activities with local government partnerships and External Affairs in order to leverage existing infrastructures (e.g., Chambers of Commerce and Business Improvement Districts) that provide outreach to small business customers.

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

Direct Install contractors are selected using a competitive bid process to ensure cost-effective delivery of services. All customer outreach, existing equipment surveys, explanation and promotion of retrofits and installation of retrofits for customers will be delivered by the contractors.

The IOU Program Management staff provides a customer contact list to the Direct Install contractors. Using this list the contractors will contact the customer to set up an appointment to assess and install the recommended measures at no cost to the customer. In cases where a customer name is not shown on the list (for example, a new business that opened after the list was generated), the contractor confirms their eligibility before performing a survey. Contractors have the main responsibility for contacting eligible customers, but also work with appropriate CBO/FBO and local government partnerships to reach customers.

After completing the energy survey, the contractors must discuss the recommendations with the customer and explain which fixtures and/or lamps recommended for upgrade and/or replacement. The contractor must then ask the customer whether to proceed with the retrofit:

The contractor typically installs the equipment within a few days of obtaining permission to proceed. After completing the installation, the contractor must do three things:

1. Perform an on-site post-verification of the installation. The test must ensure that all retrofit work is completed and in compliance with all applicable statutes, acts, ordinances, regulations, codes and standards of the federal, state and local governmental agencies having regulatory jurisdiction.
2. If a customer has any complaint about work done through the Program, the Contractor is ultimately responsible for handling it.

Any advertising or marketing material that the contractor uses must be approved by the Program manager in advance. All customer communications must be presented in the customer's primary language whenever possible and appropriate categories).

i. Emerging Technologies program

   Not applicable; this program does not seek to influence emerging technologies.

ii. Codes and Standards program

   Not applicable; this program is not directly involved with the Codes and Standards, but is indirectly involved insofar as Title 20/24 requirements dictate minimum efficiency standards.

iii. WE&T efforts

   Direct Install contractors will be required to provide customers with informational materials on statewide and local WE&T opportunities. In addition, the Direct Install program (through its contractor delivery network) offers an opportunity for achieving one of the primary goals of Workforce Education & Training – providing energy efficiency jobs for low income and disadvantaged workers. The linkage between Direct Install and the Statewide WE&T efforts will be made stronger as the WE&T program coalesces.

   For SDG&E, specific workforce development efforts supporting Direct Install will include training on topics including, but not limited to:

   - Audits – Training will be developed in an effort to promote a consistent approach and format to facility audits.
   - Financing (i.e., On Bill Financing)
   - Soft skills and Business training (including customer service, sales, and marketing).

- Benchmarking
- Program-specific training – Training will be developed to promote increased familiarity with the program's eligibility requirements, application, processes, etc.
- IDSM

SDG&E will explore voluntary incentive-based approaches to encourage contractors and other industry professionals to complete the full bundle of Direct Install workforce development training. For professionals who complete the pre-requisite courses and pass a high-road skill standards test, such approaches may include (as applicable):

- Allowing marketing or advertising differentiation;
- An incentive bonus; and/or
- Providing preference to these professionals during bid evaluation process.

Direct Install workforce development training will be coordinated with the statewide IOU WE&T program. In addition to the trainings described above, SW IOU WE&T programs will continue to offer building-block courses that educate professionals on the concepts that form the foundation of commercial/industrial programs. Those concepts include:

- Green building techniques;
- Codes and standards (Title-24);
- Lighting and HVAC technologies;
- Energy cost management; and
- Food service equipment.

Contractor recruitment efforts will be conducted primarily by SW WE&T program implementers through:

- The network of contractors already participating in C/I EE programs;
- Direct outreach through industry organizations with locally active memberships (e.g. IHACI, U.S.G.B.C., IFMA, AIA, BOMA, etc.);
- Workforce development departments (to target unemployed general contractors); and
- Community Based Organizations with a proven track record of effective outreach to the hard-to-reach workforce.

iv. Program-specific marketing and outreach efforts

Program outreach occurs by working closely with local governments, Faith Based and Community Based Organizations. Marketing and outreach efforts focus on the energy efficiency benefits of the equipment installed, proper operation and maintenance and cross-promotion of DR activities. (Specific IOU budget information for this marketing activity is provided in Table 1.)

v. Non-energy activities of program

As a turnkey program, Direct Install contractors are responsible for outreach efforts, equipment specification, equipment procurement, equipment installation, job-site clean-up, equipment disposal and post-installation inspection.

vi. Non-IOU Programs

Direct Install will leverage the efforts of other philanthropic, faith-based and community-based organizations to achieve additional energy savings. These efforts will be further defined as the program design details are developed and third-party contracts are negotiated.

vii. CEC work on EPIC

Not applicable; see Section 6.b.i.

viii. CEC work on codes and standards

Not applicable; see Section 6.b.ii.

ix. Non-utility market initiatives

Not applicable

c) Best Practices

Direct Install Programs were successfully offered during the 2010-2012 program cycle. Best practices were derived from these programs and include:

- Keep messaging and participation simple for the customer.
- Understand the key motivators that drive an industry and use that information to market the program.
- Make the program visible to targeted customers.
- Contact targeted customers through identified organizations and associations,
- Maintain a high level of customer service by providing customers with assistance with vendor management and other no cost, low cost recommendations.
- Identify qualifying products simply and effectively.

d) Innovation

As the market matures with information regarding energy efficiency, many small businesses are expressing an interest in the adoption of emerging technologies, such as solid state lighting, and demand response enabling technologies. The IOU Direct Install Program Management team will continually evaluate these technologies and incorporating them into the program delivery model including potential customer co-pay into the program.

IOUs will explore offering an audit to customers considering three or more measures in an effort to determine if the audit itself leads to implementation of deeper savings.

e) Integrated/coordinated Demand Side Management

The Direct Install model provides a great opportunity to market other DSM (i.e., DR and CSI) to traditionally hard-to-reach customers. The program will make every effort to do so; however, it is acknowledged that these small business customers likely do not have the resources (both financial and personnel) to actively pursue participation in such programs (especially CSI). To help bridge this resource gap, DSM promotional materials will describe all known non-IOU programs that offer tax credits/rebates/financing for solar PV systems. Information on DR programs and rate alternatives/changes appropriate to the small-business customer class will also be provided.

f) Integration across resource types

Promotional materials described in Section 6.e will also include information on water energy savings. In addition, such water savings measures (e.g., low flow faucets) may be evaluated for inclusion in the program delivery.

g) Pilots

Not applicable

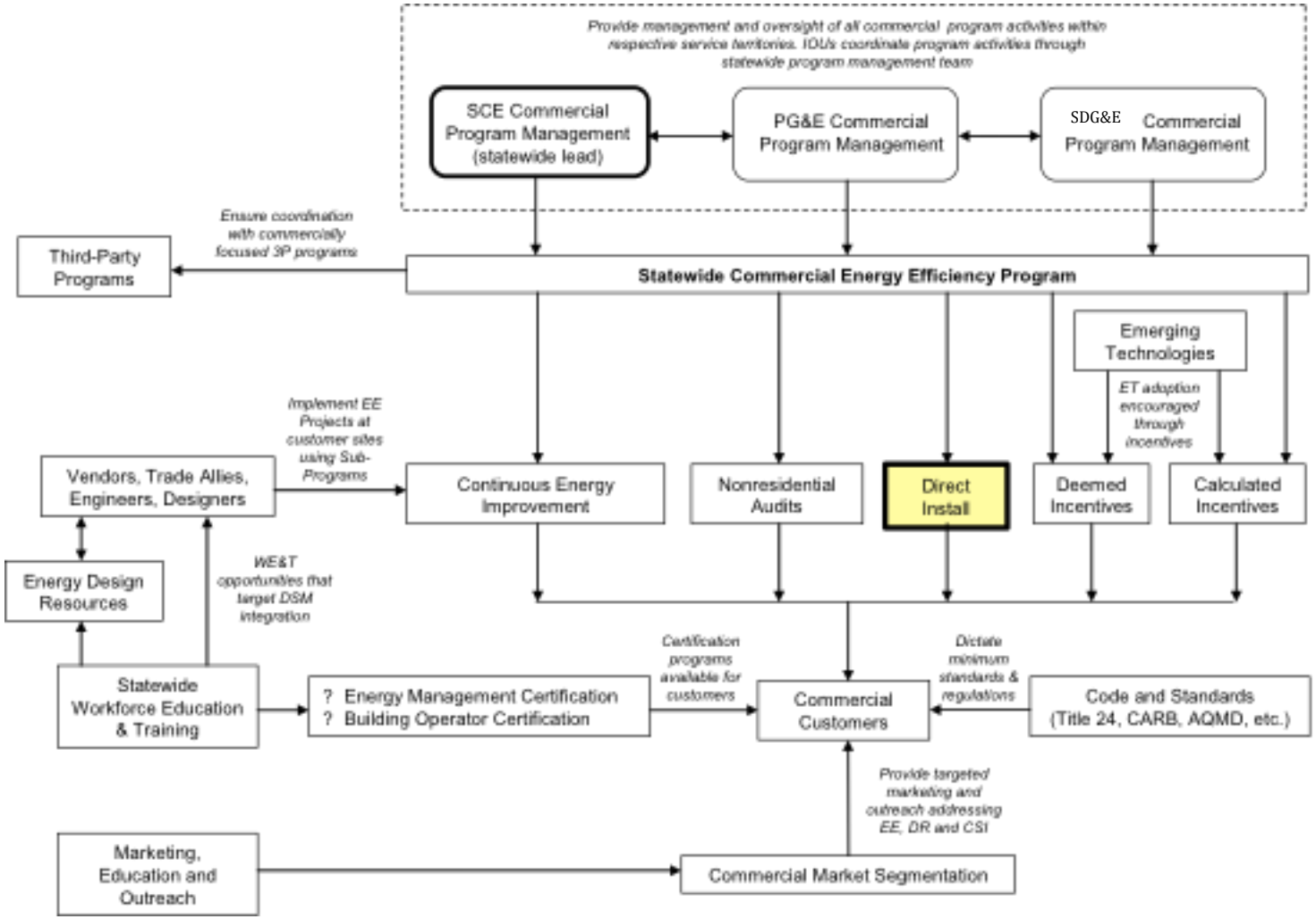
h) EM&V

The utilities plan to work together and with the Energy Division to develop a complete plan for 2013-2014 studies and budgets after the program plans are finalized and filed. This plan will be submitted to the CPUC in time for approval along with the Program Implementation Plans.

Detailed plans for process evaluations and other evaluation efforts specific to this program will be developed after the final program design is approved by the CPUC and program implementation has begun, since final plans will be based on identified program design and implementation issues and questions. However, a brief description of the current, preliminary plans is provided below:

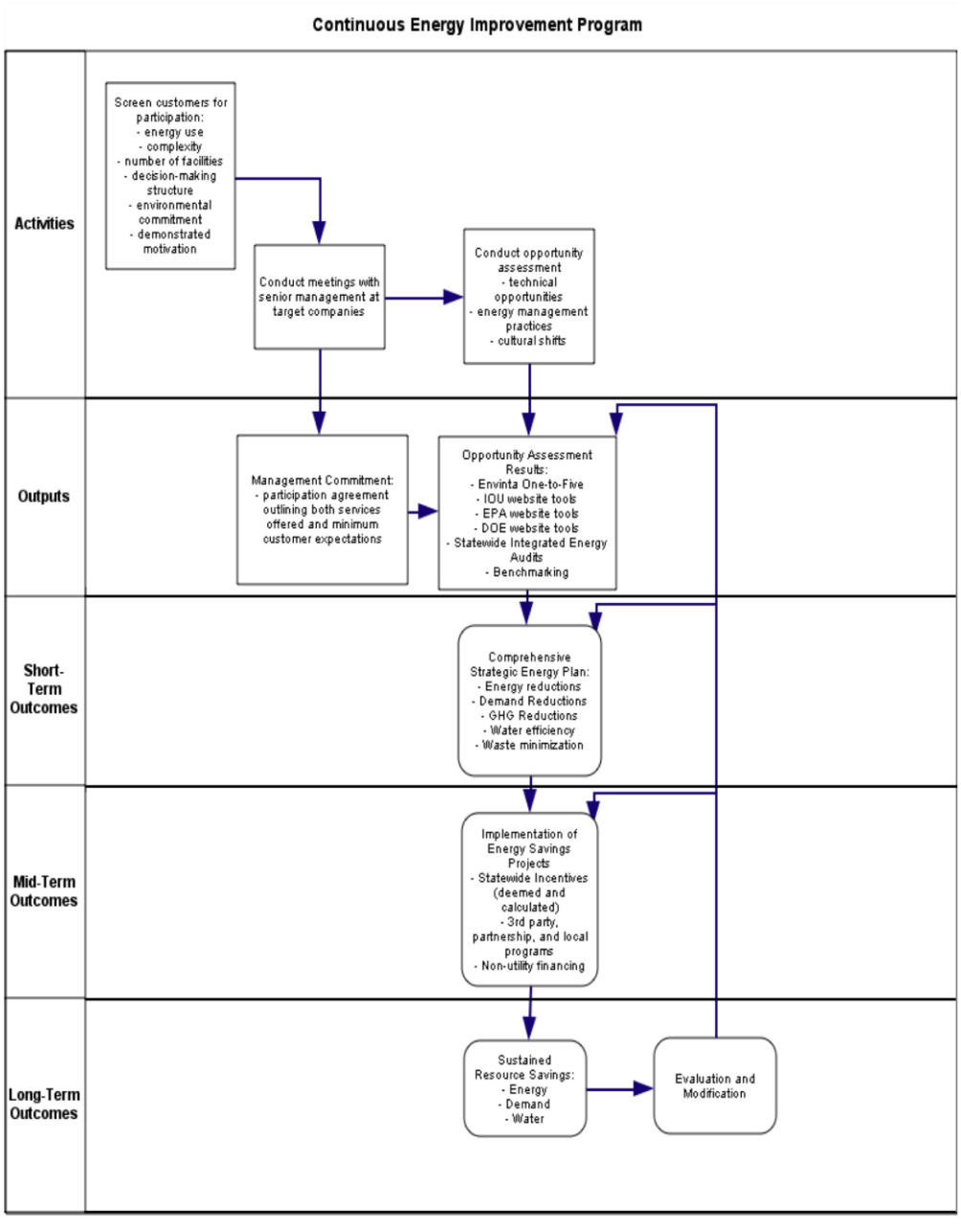
- Conduct evaluation to track the all proposed key metrics,
- Conduct specific process evaluation to improve program design, implementation and market effectiveness.

7) **Diagram of Program**



8) **Program Logic Model**

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. Below is the approved logic model for the Continuous Energy Improvement Sub-program.



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1) **Program Name:** Third Party Innovative Designs for Energy Efficiency Approaches ("IDEEA365") Program
Program ID#:
SDG&E Program Type: Third Party Program

2) **Program Description (general)**
San Diego Gas & Electric (SDG&E), along with the other CA IOUs propose a new cross-cutting third party program called the IDEEA365 Program that will promote the "rolling"[1] concept for solicitations in the 2013-2014 cycle for new and innovative programs. The program is designed to allow for continuous introduction of innovative ideas and technologies into the energy efficiency portfolio by drawing from the skill, experience, and creativity of the energy efficiency community. The IDEEA365 Program will create a mechanism for competitive solicitations offered year round for new third party programs that produce cost effective energy savings and demand reduction. Additionally, the programs selected in this new solicitation process may be allowed to continue beyond 2014 as a rolling program. This means that they would not need to reapply for the new program cycle beginning in 2015 if deemed successful based on statewide consistent criteria such as goal performance, cost-effectiveness, goals and expenditure alignment, service delivery, energy savings, and market potential.

With the IDEEA365 program, SDG&E will offer an open request for abstracts (RFA). This RFA will be continuously open throughout the program cycle until allocated budget is depleted, and all submitted abstracts will be scored using consistent statewide scoring criteria, such as cost-effectiveness, innovation, feasibility, portfolio fit, comprehensiveness, deep savings, and supplier diversity. In addition, IDEEA365 will work with the Technology Resource Innovation Outreach Program (TRIO)[2] to provide awareness of this rolling solicitation opportunity and provide training for third parties who are new to the solicitation process. The "rolling" solicitations concept will be promoted by offering two unique types of solicitations.

Targeted Solicitation will support identified program and market needs and technologies such as, but not limited to, water/energy nexus, hard-to-reach markets such as tenant-landlord in residential and commercial customers, a high tech program incorporating state-of-the-art information technology, and programs supporting an integrative approach. There may be solicited programs that may have various goals with no specific segment targeted; or Industrial Energy Efficiency, with specific targeted segments and innovative delivery methods; or Statewide [SW] General, with reliable program designs for EE activities but with no specific segment targeted, etc. There are no specific measures requested in the

[1] For purposes of this decision (D. 12-05-015), "rolling" portfolio cycles refer to any set of reforms which obviate the need for arbitrary cycles of preparation, regulatory review, authorization, evaluation, and termination of the program portfolio *in its entirety*.
[2] A statewide program that seeks to engage non-traditional methods and greater outreach to generate new innovative program ideas and identify newer technologies for capturing cost-effective electric energy savings

IDEEA365 solicitation process. However, abstracts and proposals are encouraged to offer comprehensive measures relative to the industry or customer segment proposed. This would include water-energy nexus programs that manage leaks and water pressure.

The second type of solicitation promotes innovation delivered by Third Party programs. SDG&E encourages new service providers who develop and deploy new and existing emerging technologies or have innovative ideas to submit proposals through this process.

The solicitation process, per se, does not have non-incentive customer services. However, the bidders' abstracts and proposal responses will typically include marketing and outreach to customers, audits, economic evaluations, and incentive application assistance.

The goal of this program is to address the expansion and quality of energy efficiency programs implemented by third parties and to streamline the solicitation process. This program will provide resources and accessibility to the solicitation process by third parties and will encourage comprehensive innovative programs. Also, it will assist in overcoming the barriers to third parties qualified but new to the energy efficiency bidding process.

The RFAs and RFPs will be posted on the statewide Proposal Evaluation and Program Management Application (PEPMA) website. This website was used to post statewide IOU RFP's and capture third party proposals for the 2010-2012 program cycle. PEPMA has been enhanced and can serve as a centralized point for energy efficiency program proposals. Using this site would not only provide for bidder registration and submission of abstracts and proposals, it would make proposals available for IOU's and the established stakeholder groups to review. Single site would help to leverage online consistent system, reduce bidders' confusion and multiple training that would be needed, if they have to post on various sites. Also, third party implementers will have the option to submit statewide or local proposals at this location. These enhancements will address the lengthy solicitation process by offering a one-stop shop for all IOU RFPs and make this open solicitation possible.

Upon receipt of RFAs, IOUs will coordinate program selection, evaluate potential for each IOU, and review with IOU internal groups for potential implementation. Successfully evaluated abstracts submitted to the IDEEA365 Program will move to a second stage, request for proposals (RFP), which requires more detailed proposals that must address areas such as measures, cost-effectiveness, marketing and outreach plans. Third parties will be encouraged to offer comprehensive measures relative to the industry or customer segment proposed. RFPs will be reviewed and scored using consistent statewide criteria. The selected third parties would be funded through the IDEEA365 Program.

Marketing and Outreach to third parties would be via current third party mailing lists, trade associations and TRIO and IOU websites. Upon Commission approval IOUs will discuss and develop detailed plan that will include description of the process, major bidding requirements and schedule for training Webinars and RFA/RFP. The plan will be communicated to all interested parties.

To support the Commission's vision for stakeholder involvement in the planning process, SDG&E will collaborate and coordinate with the IOUs on statewide efforts. In addition, SDG&E proposes to solicit input and feedback, as appropriate, from PRG members and other key stakeholders on third-party RFPs/RFAs, selection criteria, and proposals.

3) **Total Projected Program Budget and Savings**

Table 1

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3280	3P-IDEA	$34,342	$40,000	$792,475	$0	$866,817

Table 2: Total Projected Program Savings

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3280	3P-IDEA	0	0	0

4) **Short description of each subprogram** (suggested word limit- 50 words/subprogram).

Sub-Program (N/A this is a Third Party Program with no sub-programs)
Program Implementation Plan Template[3][4]

1) **Sub-Program Name**
2) **Sub-Program ID number:**
3) **Type of Sub-Program: __Core __Third Party __Partnership**
4) **Market sector or segment that this sub-program is designed to serve[5]:**

   a. __ Residential
      i. Including Low Income? __ Yes __ No;
      ii. Including Moderate Income? __ Yes __ No.
      iii. Including or specifically Multifamily buildings __ Yes __ No.

[3] Subprogram descriptions shall be provided for all subprograms, by all IOUs implementing the subprogram. Narrative text shall in general be identical across these submissions. For any unique IOU-specific deviations from the agreed statewide subprogram, each IOU shall indicate narrative text unique to their IOU by bolding or underscoring the relevant text. Unless otherwise indicated, budget and other tables may be unique to each IOU..

[4] Suggested page limit for subprogram PIPs: 15 pages for each resource acquisition and non-resource sub-program, and 20 pages for each market transformation-oriented subprogram. A "sub-program" of a statewide program has: a specific name, targets a specific market sub-segment or uses a unique delivery or marketing approach not used across the entire program; has a specific budget; and, for resource programs, has specific estimated savings and demand impacts.

[5] Check all that apply

iv. Including or specifically Rental units? __ Yes __ No.

b. __ Commercial (List applicable NAIC codes: _____)
c. __ Industrial (List applicable NAIC codes: _____)
d. __ Agricultural (List applicable NAIC codes: _____)

5) Is this sub-program primarily a:

a. Non-resource program ___ Yes__ No
b. Resource acquisition program ___ Yes ___ No
c. Market Transformation Program ___ Yes ___ No

6) Indicate the primary intervention strategies:

a. Upstream ___ Yes ___ No
b. Midstream ___ Yes ___ No
c. Downstream ___ Yes ___ No
d. Direct Install __ Yes __ No.
e. Non Resource __ Yes __ No.

7) Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC) TRC ___ PAC ___

8) Projected Sub-Program Budget

Table 1. Projected Sub-Program Budget, by Calendar Year[6]

9) Sub-Program Description, Objectives and Theory

a) **Sub-Program Description and Theory:** Clearly describe the goals of the sub-program and the sub-program theory. As part of this, describe the market barriers, specific areas of concern and/or gaps that the sub-program is designed to address. Then describe the way the sub-program will seek to address each barrier, area of concern or gap[7] (suggested work limit: 600 words per subprogram).

b) **Sub-Program Energy and Demand Objectives**- If this sub-program has energy and demand objective, please complete Table 2.

[6] Individual utility specific information to be provided in this table

[7] Through marketing, delivery mechanisms, information, incentives, etc. If barriers vary by market sub-sector, provide this information. As part of this, succinctly describe the role of any market actors upstream from the customer such as installers, venders, architects, etc.; indicate if and why the program approach constitutes "best practice," is "innovative" or reflects "lessons learned" in market strategies, program design and/or implementation techniques.

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year[8]

c) **Program Non-Energy Objectives**:

[Please refer to Attachment A of this template for instructions on how to provide Non-Energy Objectives]

d) **Cost Effectiveness/Market Need**: What methods will be or have been used to determine whether this program is cost-effective?[9] If this is a non-resource program, describe the literature, market assessments or other sources that indicate a need for this program.

e) **Measure Savings/ Work Papers**:

a. Indicate data source for savings estimates for program measures (DEER, custom measures, etc).

b. Indicate work paper status for program measures:

Table 4 – Work paper Status

[Table 4 Work paper Status to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

10) Program Implementation Details

a) **Timelines:** List the key program milestones and dates. An example is included below.

Table 5:. Sub-Program Milestones and Timeline (example)

Milestone	Date
Project Initiation Meeting	1/1/2013
RFP Issued	
Training completed	6/1/2013
Marketing materials completed	
Installations completed	8/31/2014
Conclude Pilot Program	12/31/2014
Quarterly Progress Reports	3/31/2013 – 12/8/2014
etc	

[8] Individual utility specific information to be provided in this table

[9] If the program has energy and demand objectives, simply state that the methods contained in the Standard Practice Manual will be used. If the program does not have energy and demand objective, propose an approach to assess cost-effectiveness.

b) **Geographic Scope**: List the geographic regions (e.g., CEC weather zones) where the program will operate

Table 6: Geographic Regions Where the Program Will Operate

[Table 6 Geographic Regions to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

c) Program Administration

Table 7: Program Administration of Program Components

[Table 7 Program Administration to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

d) Program Eligibility Requirements:

i. **Customers:** List any customer eligibility requirements (e.g., annual energy use, peak kW demand):

Table 8: Customer Eligibility Requirements (Joint Utility Table)

[Table 8 Customer Eligibility Requirements to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

ii. **Contractors/Participants:** List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).

Table 9: Contractor/Participant Eligibility Requirements (Joint Utility Table)

[Table 9 Customer Eligibility Requirements to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

e) **Program Partners:**

a. **Manufacturer/Retailer/Distributor partners:** For upstream or midstream incentive and/or buy down programs indicate[10]:

Table 10: Manufacturer/Retailer/Distributor Partners

[Table 10 Manufacturer/Retailer/DistributorPartners to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

b. **Other key program partners**: Indicate any research or other key program partners:

f) **Measures and incentive levels**: E3 calculators will provide the list of measures and incentive levels to be provided via the program. In this section the utilities should provide a summary table of measures and incentive levels.

Table 11: Summary Table of Measures, Incentive Levels and Verification Rates

[Table 11 Summary Table of Measures, Incentive Levels and Verification Rates to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

a. Use a single excel spreadsheet to indicate the eligible measures for the program across all IOUs. Indicate the expected incentive level by measure or measure grouping for each IOU, making clear where these vary.
b. For each incented or rebated measure, indicate the market actor to whom this will be provided.

g) **Additional Services:** List additional services that the sub-program will provide, to which market actors.

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which any such services will be incented or funded.

Table 12: Additional Services

[10] Provide in a consistent format for all IOUs. Indicate program partners across all IOU territories in one table or spreadsheet. Append to end of PIP.

[Table 12 Additional Services to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

h) **Sub-Program Specific Marketing and Outreach:** Please describe, providing timelines (suggested word limit: 300 words)

i) **Sub-Program Specific Training:** Please describe, providing timelines (suggested word limit: 300 words)

j) **Sub-Program Software and/or Additional Tools:**

a. List all eligible software or similar tools required for sub-program participation.
b. Indicate if pre and/or post implementation audits will be required for the sub-program.
   Pre-implementation audit required ___ Yes ___ No
   Post-implementation audit required ___ Yes ___ No
c. As applicable, indicate levels at which such audits shall be rebated or funded, and to whom such rebates/funding will be provided (i.e. to customer or contractor).

Table 13: Post-implementation Audits

[Table 13 Program Related Audits to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

k) Sub-Program Quality Assurance Provisions: Please list quality assurance, quality control, including accreditations/certification or other credentials

Table 14: Quality Assurance Provisions

[Table 14 Quality Assurance Provisions to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

l) **Sub-program Delivery Method and Measure Installation /Marketing or Training:** Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above.

m) **Sub-program Process Flow Chart:** Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.

n) **Cross-cutting Sub-program and Non-IOU Partner Coordination:** Indicate other IOU EE, DR or DG sub-programs with which this sub-program will regularly coordinate. Indicate also key non-IOU coordination partners. Indicate expected coordination mechanisms[11] and frequency[12]:

Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

[Table 15 Cross-cutting Sub-program and Non-IOU Partner Coordination to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

o) **Logic Model:** Please append the logic model for this sub-program to the end of this PIP. Describe here any additional underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).

11) Additional Sub-Program Information

a) **Advancing Strategic Plan Goals and Objectives**: Describe how sub-program advances the goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan (word limit: 150 words)

b) **Integration**

i. **Integrated/coordinated Demand Side Management**: As applicable, describe how sub-program will promote customer education and sub-

[11] "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

[12] This does not mean there would be mutual understanding of the on the mechanism or a known frequency of coordination; rather, just provide enough information to give a general sense of the coordinate efforts.

program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable.

Table 16: Non-EE Sub-Program Information

[Table 16 Non-EE Sub-Program Information to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

ii. **Integration across resource types** (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach.

[This information can be found in Table 16 Non-EE Sub-Program Information to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

c) **Leveraging of Resources**: Please describe if the subprogram will leverage additional investments by market actors or other state, local or federal agencies.

d) **Trials/ Pilots:** Please describe any trials or pilot projects planned for this sub-program

e) **Knowledge Transfer:** Describe the strategy that will be used to identify and disseminate best practices and lessons learned from this sub-program

12) **Market Transformation Information**: For programs identified as market transformation programs, include the following (suggested page limit- five pages):

i. A summary of the market transformation objectives of the program.
ii. A description of the market, including identification of the relevant market actors and the relationships among them;
iii. A market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies;
iv. A description of the proposed intervention(s) and its/their intended results, and specify which barriers the intervention is intended to address;

v. A coherent program, or "market," logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results[13];

vi. Appropriate evaluation plans and corresponding Market Transformation indicators and Program Performance Metrics based on the program logic model.

13) **Additional information as required by Commission decision or ruling or as needed:** Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers):

ATTACHMENT 1

Program Non-Energy Objectives

For New or Substantially changed programs and sub-programs, provide the following information for Program Non-Energy Objectives and follow the format used for the previous cycle Program Performance Metrics found in Resolution E-4385.

i. List the primary SMART[14] non-energy objectives of the program. These should correspond to key methods identified above to overcome the market barriers, areas of concern or gaps, and to the outputs and short, mid- and long-term non-energy outcomes identified in the logic model requested below.

ii. For each SMART objective, identify the quantitative targets, direction or percent of change that you hope to achieve during the program cycle.[15] .

iii. For each proposed SMART objective, describe any relevant baseline data on current market conditions that you have assembled or plan to assemble and the sources.

iv. **Quantitative program targets (PPMs):** If not already provided above, indicate estimates of the number of measure units, buildings, etc. projected to be treated by the sub-program.

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[13] If this logic model is the same as that requested in #10.(O), only provide once. As needed, provide a more detailed logic model emphasizing the market transformation elements of the program and/or how such elements integrate with resource acquisition elements.

[14] A SMART objective is one that is **S**pecific (i.e. quantitative and quantifiable generally, in terms of the results to be achieved**), M**easurable, **A**mbitious, **R**ealistic, and **T**ime-bound. For example, for a vender training component of an innovative commercial program, two SMART mid-term objectives and one long-term objective might be:

a) During the period 2013-2014, the number of HVAC installers in the SCE service territory who are able to perform quality installations of energy efficient packaged air conditioners will increase by 20%.
b) During the period 2013-2014, the number of installations of energy efficient packaged air conditions in the SCE service territory that are considered quality installations will increase by 25%.
c) By 2020, installations of energy efficient packaged air conditions in the SCE service territory that are considered quality installations will increase by 75%.

[15] Please also add any new program objectives and quantitative targets for statewide programs to the portfolio PPM/MTI reporting template.

Table 3. Quantitative Program Targets (PPMs)

[Table 3 Quantitative Program Targets (PPMs) to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

2013-2014 PIP Addendum

Program Name	aƖŘŘƭŜ ƖyŎ2ƳŜ Direct Install ό a Ɩ5Ɩύ	**Date Submitted**	7/2/2012
Subprogram Name		**Utility Name**	San Diego Gas & Electric
Program ID		**IOU Program Contact**	
		Program Cycle	2013-2014

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibiity rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission–Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Updates program for 2013-2014 Transition Period.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

See Redline

PIP Section and/or Wording to be Changed or replaced:

See Redline

Replacement Language or Information

See Redline

Revised Energy Savings (If Any):

See Redline

Other PIP Changes Required:

See Redline

1) **Program Name:** Middle Income Direct Install (MIDI)
Program ID #:
SDG&E Program Type: Third Party Program

2) **Total Projected Program Budget and Savings**

Table 1

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3211	Local-CALS - Middle Income Direct Install (MIDI)	$281,535	$203,415	$1,810,304	$2,103,645	$4,398,898

Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3211	Local-CALS - Middle Income Direct Install (MIDI)	624	2,398,774	186,669

3) Program Description

The Middle Income Direct Install (MIDI) program provides direct install energy efficiency services to middle income customers in San Diego Gas & Electric's service territory. This generally hard-to-reach segment will be provided a range of energy efficient measures at no cost to the customer and, to ensure their use, such measures will be installed at no or very low cost to the customer.

This third party program will help facilitate SDG&E's implementation of the California Statewide Program for Residential Energy Efficiency (CALSPREE). In addition, this program complies with D.12-05-015 Order Point 58 which requires that utilities establish Middle Income Direct Install programs in 2013-2014.

1) Market sector or segment that this sub-program is designed to serve[1]:
   a. _X_ Residential
      i. Including Low Income? __ Yes _X_ No;
      ii. Including Moderate Income? _X_ Yes __ No.
      iii. Including or specifically Multifamily buildings _X_ Yes __ No.
      iv. Including or specifically Rental units? __ Yes _X_ No.
   b. __ Commercial (List applicable NAIC codes: _____)
   c. __ Industrial (List applicable NAIC codes: _____)
   d. __ Agricultural (List applicable NAIC codes: _____)

2) Is this sub-program primarily a:
   a. Non-resource program ___ Yes _X_ No
   b. Resource acquisition program ___ Yes _X_ No
   c. Market Transformation Program _X_ Yes ___ No

3) Indicate the primary intervention strategies:
   a. Upstream ___ Yes _X_ No
   b. Midstream _X_ Yes ___ No

[1] Check all that apply

c. Downstream _X_ Yes ___ No
d. Direct Install _X_ Yes __ No.
e. Non Resource __ Yes _X_ No.

4) Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC)
TRC ___ PAC ___

5) Projected Sub-Program Budget
See Table 1

6) Sub-Program Description, Objectives and Theory

The Middle Income Direct Install (MIDI) program provides an opportunity to serve customers who would normally not be able to participate in Energy Upgrade California Program (EUC) and, based on income, would not qualify for SDG&E's Energy Savings Assistance Program (ESAP). The middle income segment is a large, under-served portion of the residential customer segment within SDG&E's service area and represents a unique direct installation energy efficiency opportunity. This segment is characterized as having moderate income, with insufficient disposable income to initiate many comprehensive energy efficiency home improvements.

The middle income portion of the residential segment presents an opportunity for SDG&E to gain energy savings through direct install energy efficiency retrofits as well as rebates on super efficient appliances and equipment. The MIDI program aims to help these customers reduce energy consumption and demand, save money on utility bills and improve their quality of life.

The MIDI program will achieve energy savings for these underserved residential customer participants. More importantly, the MIDI program will offer an excellent platform to explore a variety of energy efficiency strategies that may help develop future program initiatives serving this customer segment.

The MIDI program will target approximately 1,000 single family homes whose household incomes fall between 201% and 300% of Federal Poverty Guidelines and offer comprehensive energy efficiency improvements at no cost or low cost to the homeowner. Through the use of a second home visit the utility will assess and install energy efficiency measures. Combustion Appliance Safety and Combustion Appliance Zone Testing (CAS / CAZ) will be performed whenever air sealing measures are installed. At the conclusion of each phase of installation work, the customer will be shown the work performed and the benefits will be explained. The customer then provides a sign off indicating that they are aware of updates. In an effort to obtain deeper retrofits and more comprehensive energy savings, customers will be additionally educated about other rebated measures that can increase energy efficiency and reduce demand.

The MIDI program directly supports the framework within the California Long Term Energy Efficiency Strategic Plan (LTEESP) to facilitate long-term energy efficiency savings.[2] The MIDI program will aim to achieve high levels of energy efficiency in support of the LTEESP Residential Sector Goal #2, which seeks to transform home improvement markets to apply

[2] CPUC's Long Term Energy Efficiency Strategic Plan, Page 1.

whole-house energy solutions to existing homes.[3] This home improvement transformation will be directed by the utility and driven by utility stakeholders, industry partners, manufacturers, contractors and retailers. The MIDI program will also utilize program partnerships to implement measures and educate customers in the areas of building shell upgrades, HVAC unit improvements, lighting upgrades, consumer electronics management, appliance and equipment upgrades, appliance and equipment recycling, energy in-home and online energy assessments as well as attractive rebate and financing options.[4]

In order to ensure the completion of long-term goals, customer education and assessments will have major components, which include Energy Efficiency (EE) and water efficiency upgrade opportunities as well as Integrated Demand Side Management (IDSM) opportunities. Primary EE and water efficiency measures will be implemented at no cost to the customer as part of the whole home assessment.

As part of the whole house assessment participants will also receive a list of suggested additional measure recommendations and behavioral changes. These recommended measures that are not initially installed by the implementer will be listed in detail within the assessment report that will be provided to the participant. The assessment will include upgrade information on solutions with the areas of EE, water efficiency, Demand Response (DR) and Renewable Energy. The assessment will additionally give participants a detailed visual of the bill impact of installing various efficiency measures.

a) Sub-Program Energy and Demand Objectives- If this sub-program has energy and demand objective, please complete Table 2.

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year

	Program Years		
	2013	2014	Total
Sub-program Name			
kWh	3,526,553	3,526,553	7,053,105
Peak kW	633	633	1266
Therms (millions)	215,009	215,009	430,018

b) Program Non-Energy Objectives:
Please see Attachment 1.

c) Cost Effectiveness/Market Need: What methods will be or have been used to determine whether this program is cost-effective?[5] If this is a non-resource program, describe the literature, market assessments or other sources that indicate a need for this program.

[3] CPUC's Long Term Energy Efficiency Strategic Plan, Page 18.
[4] CPUC's Long Term Energy Efficiency Strategic Plan, TOC.
[5] If the program has energy and demand objectives, simply state that the methods contained in the Standard Practice Manual will be used. If the program does not have energy and demand objective, propose an approach to assess cost-effectiveness.

This program will measure cost effectiveness based on E3 calculations. Smart Meter data will be utilized to evaluate the effectiveness of the installation of envelope and highly efficient measures.

d) Measure Savings/ Work Papers:

a. Indicate data source for savings estimates for program measures (DEER, custom measures, etc).

b. Indicate work paper status for program measures:

[Table 4 Work paper Status to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 4 – Work paper Status

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review
1	HVAC Maintenance	X		
2	Insulation	X		
3	Clothes Washer	X		
4	Refrigeration	X		
5	Lighting/Sensors	X		
6	Aerator	X		
7	Low Flow Showerhead	X		
8	Water Heating	X		
9	Programmable Thermostat	X		
10	Furnace	X		
11	Duct Sealing	X		
12	Air Sealing	X		
13	Whole House Fan	X		
14	Appliance Recycling	X		
15	Electronics Recycling	X		
16	Dish Washer	X		
17	Pool Pump	X		
18	In-Home Display	N/A	N/A	N/A
19	Room A/C	X		
20	Freezer	X		
21	Pool Heater	X		
22	Hot Water Circulation Pump	X		
23	Thermostatic Shut-off Valve	X		
24	Windows	X		

7) Program Implementation Details

a) Timelines: List the key program milestones and dates. An example is included below.

Table 5:. Sub-Program Milestones and Timeline (example)

Milestone	Date
Project Initiation Meeting	1/1/2013
RFP Issued	2/1/2013
Training completed	3/1/2013
Marketing materials completed	3/1/2013
Installations completed	8/31/2014
Conclude Pilot Program	12/31/2014
Quarterly Progress Reports	3/31/2013 – 12/8/2014

b) Geographic Scope: List the geographic regions (e.g., CEC weather zones) where the program will operate

Table 6 Geographic Regions Where the Program Will Operate

Geographic Region	[Insert Program/Sub-Program Name]
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	
CEC Climate Zone 4	
CEC Climate Zone 5	
CEC Climate Zone 6	
CEC Climate Zone 7	X
CEC Climate Zone 8	
CEC Climate Zone 9	
CEC Climate Zone 10	X
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	
CEC Climate Zone 14	X
CEC Climate Zone 15	X
CEC Climate Zone 16	

[Table 6 Geographic Regions to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

The program will allow SDG&E customers within climate zones 7, 10, 14, 15 to participate. The MIDI program will target inland climate zones with high central A/C usage to maximize EE savings. The MIDI program will also aim to target coastal customers with high therm usage.

c) Program Administration

Table 7: Program Administration of Program Components

[Table 7 Program Administration to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 7: Program Administration of Program Components

Program Name	Program Component	Implemented by IOU Staff? (X = Yes)	Implemented by contractors to be selected by competitive bid process (if Yes then enter type of contractor/other market actor possibly used)	Implemented by contractors NOT selected by competitive bid process (list prime contractor and sub-contractor names)	Implemented by local government or other entity (X = Yes)
MIDI	Program Management	X			
MIDI	Inspections	X			
MIDI	Measure Installations		Installation Specialist		X
MIDI	Quality Assurance		Independent Contractor		X
MIDI	Quality Control		Independent Contractor		X

d) Program Eligibility Requirements:

i. Customers: List any customer eligibility requirements (e.g., annual energy use, peak kW demand):

[Table 8 Customer Eligibility Requirements to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 8: Customer Eligibility Requirements (Joint Utility Table)

Customer Eligibility Requirement (list of requirements)	SDGE
Residential SDG&E Account	X
Home Owner Occupied or Approved	X
Income Qualified	X
Must Be Available For Inspection Verification	X

ii. Contractors/Participants: List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).

[Table 9 Customer Eligibility Requirements to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 9: Contractor/Participant Eligibility Requirements (Joint Utility Table)

Contractor Eligibility Requirement (list of requirements)	SDGE
Participating contractor meets all federal, state and local laws, ordinances and regulations	X
Contractor installations comply with all Appliance Manufacturer requirements	X
Contractor installations comply with all Appliance Recycling requirements	X
Retailer Agreements Receipt Messaging	X
Signed IOU Contractor Participation Agreement	X
Complete SDG&E designed Contractor Training	X

e) Program Partners:

a. Manufacturer/Retailer/Distributor partners: For upstream or midstream incentive and/or buy down programs indicate[6]:

[Table 10 Manufacturer/Retailer/Distributor Partners to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 10: Manufacturer/Retailer/Distributor Partners

Manufacturer/Retailer/Distributor Partner Information	SDGE
Manufacturers enrolled in program	TBD
Manufacturers targeted for enrollment in program	Technology Manufacturers
Retailers enrolled in program	TBD
Retailers targeted for enrollment in program	Appliance Retailers
Retailers targeted for enrollment in program	Electronics Retailers
Retailers targeted for enrollment in program	Equipment Retailers
Distributors enrolled in program	N/A
Distributors targeted for enrollment in program	N/A

b. Other key program partners: Indicate any research or other key program partners:
- California Center for Sustainable Energy (CCSE)
- The City Jurisdictions
- The County of San Diego

[6] Provide in a consistent format for all IOUs. Indicate program partners across all IOU territories in one table or spreadsheet. Append to end of PIP.

- Government Partnerships
- EUC Contractors
- EE Retailers
- Various Cities Chamber of Commerce
- Appliance and Technology Installers

f) Measures and incentive levels: E3 calculators will provide the list of measures and incentive levels to be provided via the program. In this section the utilities should provide a summary table of measures and incentive levels.

[Table 11 Summary Table of Measures, Incentive Levels and Verification Rates to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 11: Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	SDGE	
		Incentive Level	Installation Sampling Rate
		[indicate the expected incentive level or range by measure grouping]	[indicate the rate at which the utility samples for verification of installation of measures]
Clothes Washer	Customer	$50-$300	TBD
Refrigeration	Customer	$50-$300	TBD
Lighting/Sensors	Customer	$25-$200	TBD
Water Heaters	Customer	$50-$500	TBD
Furnace	Customer	$50-$1000	TBD
Whole House Fan	Customer	$25-$50	TBD
Dish Washer	Customer	$50-$250	TBD
Pool Pump	Customer	$250-$500	TBD

a. Use a single Excel spreadsheet to indicate the eligible measures for the program across all IOUs. Indicate the expected incentive level by measure or measure grouping for each IOU, making clear where these vary.
   N/A
b. For each incented or rebated measure, indicate the market actor to whom this will be provided.
   - Residential customers

g) Additional Services: List additional services that the sub-program will provide, to which market actors.

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which any such services will be incented or funded.

[Table 12 Additional Services to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 12: Additional Services

Additional Services that the Sub-Program will Provide	To Which Market Actors	SDGE
		[indicate the level at which the service will be incented or funded]
Direct Installation of SDG&E Approved Tier 1, 2 and 3 Appliances & Equipment	Contractor	Installation Cost
Direct Installation of SDG&E Approved Super Efficient Appliances & Equipment	Contractor	Installation Cost
HVAC Tune-up (coil clean & refrigerant charge)	Contractor	Tune-up Cost
Appliance Recycling	Contractor	Cost of Disposal
Consumer Electronics Recycling	Contractor	Cost of Disposal
Consumer Electronics Recycling	Retailer	No Cost

h) Sub-Program Specific Marketing and Outreach: Please describe, providing timelines (suggested word limit: 300 words)

Milestone	Date
Marketing Initiation Meeting	1/1/2013
Marketing Plan Completion	2/1/2013
Marketing Plan Implementation	3/1/2013
Marketing Materials Completed – Initial Phase	3/1/2013
Marketing Revamp & Re-launch – Secondary Phase	1/1/2014
Monthly Marketing Progress Reports	3/31/2013 – 12/8/2014

i) Sub-Program Specific Training: Please describe, providing timelines (suggested word limit: 300 words)

- 3rd Party Contractor Training
  - Program Education
  - Customer Recruitment
  - Marketing and Outreach
  - Installation Services
  - Customer Database Management

j) Sub-Program Software and/or Additional Tools:

a. List all eligible software or similar tools required for sub-program participation.
b. Software will include tools that will allow customers and contractors to communicate effectively to manage program participation.
c. Indicate if pre and/or post implementation audits will be required for the sub-program.
   Pre-implementation audit required _X_ Yes ___ No

Post-implementation audit required _X_ Yes ___ No

d. As applicable, indicate levels at which such audits shall be rebated or funded, and to whom such rebates/funding will be provided (i.e. to customer or contractor).

In order to bridge the financing barriers, Residential assessments will be funded by the utility and conducted by the selected contractor.

[Table 13 Program Related Audits to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 13: Program Related Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
Program Management Audit& Assessment Software	Contractor

k) Sub-Program Quality Assurance Provisions: Please list quality assurance, quality control, including accreditations/certification or other credentials

[Table 14 Quality Assurance Provisions to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 14: Quality Assurance Provisions

Quality Assurance Provisions		
QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
QA requirements :Photo Measure Installation Verification	TBD	EUC Approved
QA requirements: Minimize site visits	100%	EUC Approved

The program implementer will be expected to complete MIDI-specific customer site upgrades with no more than four site visits within a three-week time span. Additionally to ensure quality installations up to 5% of jobs will be inspected initially. SDG&E will also look to contract a QA/QC contractor that will ensure measures are installed with quality and that customers are satisfied with installed measures.

l) Sub-program Delivery Method and Measure Installation /Marketing or Training: Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above.

Included within the assessment to the targeted homes, the implementer will be advised to

aim for energy efficiency measures designed to save at least 10% energy usage from the modeled baseline with a goal to achieve an average of 20% energy reduction. Once MIDI measures are installed the implementer will educate the customer on EUC and the potential additional savings.

m) Sub-program Process Flow Chart: Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.
See Logic Model

n) Cross-cutting Sub-program and Non-IOU Partner Coordination: Indicate other IOU EE, DR or DG sub-programs with which this sub-program will regularly coordinate. Indicate also key non-IOU coordination partners. Indicate expected coordination mechanisms[7] and frequency[8]:

IOU coordination partners
Although MIDI is a local program the program will look to coordinate with other utilities.

Non-IOU coordination partners
- California Center for Sustainable Energy (CCSE)
- The City Jurisdictions
- The County of San Diego
- Government Partnerships
- EUC Contractors
- EE Retailers
- Various Cities Chamber of Commerce
- Appliance and Technology Installers
- Water Authority

[Table 15 Cross-cutting Sub-program and Non-IOU Partner Coordination to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

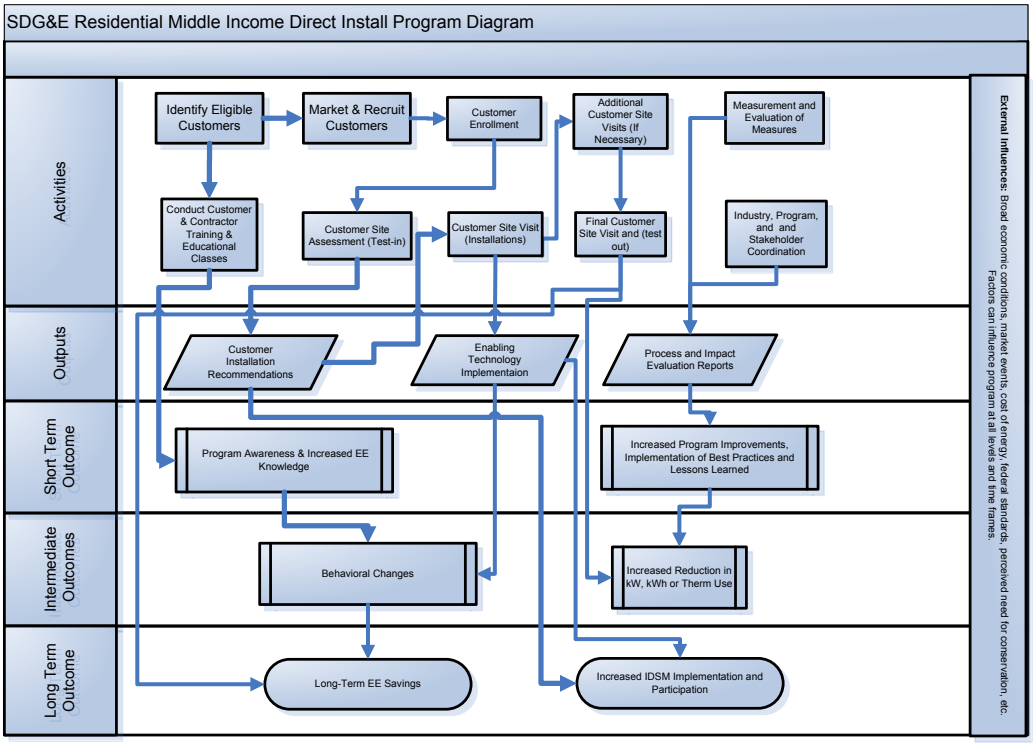
Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

Sub-Program Name

[7] "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).
[8] This does not mean there would be mutual understanding of the on the mechanism or a known frequency of coordination; rather, just provide enough information to give a general sense of the coordinate efforts.

Other IOU Sub-program Name	Coordination Mechanism	Expected Frequency
MIDI - PG&E	Meeting	Quarterly
MIDI - SCE/SCG	Meeting	Quarterly
Coordination Partners Outside CPUC		
CCSE	Meeting	Quarterly
City Jurisdictions	Meeting	Quarterly
County of San Diego	Meeting	Quarterly
Government Partnerships	Meeting	Quarterly
EUC Contractors	Meeting	Quarterly
Electronics & Appliance Retailers	Meeting	Quarterly
Various San Diego Cities Chamber of Commerce	Meeting	Quarterly
Technology Installers	Meeting	Quarterly
Appliance Installers	Meeting	Quarterly

o) Logic Model: Please append the logic model for this sub-program to the end of this PIP. Describe here any additional underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).



8) Additional Sub-Program Information

a) Advancing Strategic Plan Goals and Objectives: Describe how sub-program advances the goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan (word limit: 150 words)

This program looks to achieve LTEESP goals and strategies that include:
Goal 1: Implementing a whole-house approach to energy consumption.[9]
Goal 2: Providing tools to enable customers to understand and manage their energy demand.[10]

b) Integration

i. Integrated/coordinated Demand Side Management: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable.

The MIDI program will utilize the home assessments to communicate current DSM offerings such as Demand Response, enabling technologies, generation, water conservation and the use of historical as well as real-time smart meter usage information.

[9] CPUC's Long Term Energy Efficiency Strategic Plan, Page 11.
[10] CPUC's Long Term Energy Efficiency Strategic Plan, Page 11.

[Table 16 Non-EE Sub-Program Information to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 16: Non-EE Sub-Program Information

Sub-Program Name		
Non-EE Sub-Program	Budget	Rationale and General Approach for Integrating Across Resource Types
N/A		

ii. Integration across resource types (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach.

[This information can be found in Table 16 Non-EE Sub-Program Information to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 16: Non-EE Sub-Program Information

Sub-Program Name		
Non-EE Sub-Program	Budget	Rationale and General Approach for Integrating Across Resource Types
N/A		

c) Leveraging of Resources: Please describe if the subprogram will leverage additional investments by market actors or other state, local or federal agencies.
N/A

d) Trials/ Pilots: Please describe any trials or pilot projects planned for this sub-program

- Trial to partner with DR programs to implement DR solutions that will allow customers to maximize their Reduce Your Use (RYU) credit.
- Introduce the IDSM concepts through the EE-DR integration.
- Evaluation of IHD effectiveness in assisting customers in the EE upgrade process.
- Communicating smart appliances with an increased level of EE.
  - Pool Pumps
  - PCT - A/C/Furnace control to test EE/RYU
- Transition and integrate highly efficiency Emerging Technologies
- Pump and motor monitor and switch out program
- Partner with low-fuel/emission installation fleets

e) Knowledge Transfer: Describe the strategy that will be used to identify and disseminate best practices and lessons learned from this sub-program
   - Statewide lessons learned will also be utilized within on-going program efforts.
   - Complete targeted marketing to find eligible program participants. Marketing findings will be reviewed and published for program improvement.
   - Leverage program information to assist customers with high-bill complaints

9) Market Transformation Information: For programs identified as market transformation programs, include the following (suggested page limit- five pages):

   The MIDI program goal for Market Transformation includes allowing middle income residential customers access to EE measures at no cost and to additionally educate these customers on the importance of looking for a higher level of savings that can be achieved through the participation in Energy Upgrade California (EUC) as well as through other various partnerships. These customers will have access to low-interest financing options that will allow for the additional measures to be installed based on assessment recommendations. MIDI program participants will be given access to materials and tools that will allow for education on additional ways to increase the on-going efficiency within their home.

   i. A summary of the market transformation objectives of the program.
   ii. A description of the market, including identification of the relevant market actors and the relationships among them;
   iii. A market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies;
   iv. A description of the proposed intervention(s) and its/their intended results, and specify which barriers the intervention is intended to address;
   v. A coherent program, or "market," logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results[11];
   vi. Appropriate evaluation plans and corresponding Market Transformation indicators and Program Performance Metrics based on the program logic model.

10) Additional information as required by Commission decision or ruling or as needed: Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers):

[11] If this logic model is the same as that requested in #10.(O), only provide once. As needed, provide a more detailed logic model emphasizing the market transformation elements of the program and/or how such elements integrate with resource acquisition elements.

ATTACHMENT 1

Program Non-Energy Objectives

For new or substantially changed programs and sub-programs, provide the following information for Program Non-Energy Objectives and follow the format used for the previous cycle Program Performance Metrics found in Resolution E-4385.

- List the primary SMART[12] non-energy objectives of the program. These should correspond to key methods identified above to overcome the market barriers, areas of concern or gaps, and to the outputs and short, mid- and long-term non-energy outcomes identified in the logic model requested below.

  The MIDI SMART objectives include:

  1. Specific
     a. Evaluate the customer barriers for MIDI program participation.
     b. Evaluate the contractor barriers for MIDI program participation.
     c. Identify customer education successes.
     d. Identify customer short-term and long-term behavioral changes driven by the program,
     e. Determine at least 3 MIDI program customer financing options.
     f. Improve the level of communication between the Utility, Contractors, and MIDI program participants so that the direct installations process occurs smoothly.

  2. Measurable
     a. Quantify needs required to overcome customer participation barriers.
     b. Quantify needs required to overcome contractor participation barriers.
     c. Evaluate the level of understanding that customers have on EE and IDSM options.
     d. Quantify the most valuable program specific behavioral changes.

  3. Ambitious
     a. Promote and gain water savings at each MIDI program site, if applicable.
     b. Evaluate and identify all applicable City, State and Government financing options and clearly communicate this with MIDI program participants.

[12] A SMART objective is one that is **S**pecific (i.e. quantitative and quantifiable generally, in terms of the results to be achieved**),** **M**easurable, **A**mbitious, **R**ealistic, and **T**ime-bound. For example, for a vender training component of an innovative commercial program, two SMART mid-term objectives and one long-term objective might be:

a) During the period 2013-2014, the number of HVAC installers in the SCE service territory who are able to perform quality installations of energy efficient packaged air conditioners will increase by 20%.
b) During the period 2013-2014, the number of installations of energy efficient packaged air conditions in the SCE service territory that are considered quality installations will increase by 25%.
c) By 2020, installations of energy efficient packaged air conditions in the SCE service territory that are considered quality installations will increase by 75%.

c. Determine all available program financing options and ensure a path that will meet the needs of MIDI program participants.

4. Realistic
    a. Utilize contractor and customer training to ensure optimal program participation.
    b. Aim to integrate best practices on a 3-month rolling basis, based on customer, contractor and stakeholder feedback.
    c. Ensure a high level of customer and contractor satisfaction.
    d. Train contractors to communicate IDSM options.
    e. Educate customers on IDSM options.

5. Time-bound
    a. Select program implementer by the second quarter of 2013.
    b. Direct install measures into ~ 500 single family homes by December 1, 2013.
    c. Direct install measures into ~ 1,000 total single family homes by December 31, 2014.
    d. Complete Program M&E by the first quarter of 2015 and utilize these findings in 2015 implementation.

- For each SMART objective, identify the quantitative targets, direction or percent of change that you hope to achieve during the program cycle.[13] .

6. Specific
    a. Evaluate the customer barriers for MIDI program participation.
        - Determine at least 3 barriers.
    b. Evaluate the contractor barriers for MIDI program participation.
        - Determine at least 3 barriers.
    c. Identify customer education successes.
        - Determine at least 3 improvements.
    d. Identify customer short-term and long-term behavioral changes driven by the program,
        - Determine at least 3 successes and 3 improvements.
    e. Determine at least 3 MIDI program customer financing options.
        - Determine and communicate financing minimum and maximum incentive levels.
    f. Improve the level of communication between the Utility, Contractors, and MIDI program participants so that the direct installations process occurs smoothly.
        - Conduct at least 4 annual meetings with all parties to determine improvements.

[13] Please also add any new program objectives and quantitative targets for statewide programs to the portfolio PPM/MTI reporting template.

7. Measurable
    a. Quantify needs required to overcome customer participation barriers.
        - Determine at least 3 customer needs for program implementation.
    b. Quantify needs require to overcome contractor participation barriers.
        - Determine at least 3 contractor needs for program implementation.
    c. Evaluate the level of understanding that customers have on EE and IDSM options.
        - Look to deliver energy education information to increase IDSM participation to at least 5% of the target customer base.
    d. Quantify the most valuable program specific behavioral changes.
        - Determine top 3 important program behavior changes.

8. Ambitious
    a. Promote and gain water savings at each MIDI program site, if applicable.
        - Based on quantified water savings levels in 2013, look to increase the water savings by at least 5% in 2014.
    b. Evaluate and identify all applicable City, State and Government financing options and clearly communicate this with MIDI program customers.
        - Aim to allow funding to finance at least 5% of applicable measure costs.

9. Realistic
    a. Utilize contractor and customer training to ensure optimal program participation.
        a. Host quarterly meetings to integrate at least 3 training improvements.
    b. Incorporate best practices on a quarterly basis based on customer, contractor and stakeholder feedback.
        a. Host quarterly meetings to integrate at least 3 program improvements.
    c. Ensure a high level of customer and contractor satisfaction.
        a. Host quarterly meetings to integrate at least 3 program improvements.
10. Time-bound
    a. Select program implementer by the second quarter of 2013.
    b. Direct install measures into ~ 500 single family homes by December 1, 2013.
    c. Direct install measures into ~ 1,000 total single family homes by December 31, 2014.
    d. Complete Program M&E by the first quarter of 2015 and utilize these findings in 2015 implementation.

- For each proposed SMART objective, describe any relevant baseline data on current market conditions that you have assembled or plan to assemble and the sources.

- Quantitative program targets (PPMs): If not already provided above, indicate estimates of the number of measure units, buildings, etc. projected to be treated by the sub-program.

  [Table 3 Quantitative Program Targets (PPMs) to be provided as an Excel Attachment to this PIP. Please see file "AppendixC_2013-2014_PIPTemplate_NEWPrograms_V05Attachment.xlsx" for table formats]

Table 3. Quantitative Program Targets (PPMs)

Target	2013	2014
Number of homes or buildings treated	500	1,000

1) **Program Name:** Local Integrated Demand Side Management Marketing
Program ID#:
SDG&E Program Type: Third Party Program

2) **Program Description**
The California Long Term Energy Efficiency Strategic Plan (Strategic Plan) encourages programs that integrate the full range of demand-side management (DSM) options including energy efficiency (EE), demand response (DR), and distributed generation (DG) as fundamental to achieving California's strategic energy goals. This program implementation plan (PIP) presents the integrated marketing efforts that San Diego Gas and Electric Company will undertake to present a local, holistic picture of DSM options for all customer classes. In coordination with the statewide IDSM task force, SDG&E defines integrated marketing as "marketing efforts that seek to integrate demand-side energy management options to the greatest extent possible (DR, DG, and EE/ESAP) in a way that make sense for each customer."

SDG&E received funding for Integrated DSM Marketing for the year 2012 in D.12-04-045. Based on direction provided in the Demand Response guidance ruling and approved decision, SDG&E is requesting continued funding for Integrated Local Marketing for 2013 and 2014. This is a program that has not been previously funded through an Energy Efficiency proceeding, so the new PIP template is being used here.

3) **Total Projected Program Budget and Savings**
This is a non-resource program with no projected savings. Total projected budget for the IDSM marketing efforts in 2013 and 2014 is $3,764,307.36. This represents funding from both the EE and DR portfolios.

The EE portion of the IDSM local ME&O effort is $1,927,415.62, which represents 52% of the total effort. The DR portion of the IDSM local ME&O effort is $1,789,839.32, which represents 48% of the total effort.

There is no DG contribution to the IDSM marketing budget as SDG&E does not administer those programs in our service territory.

4) **Table 1: Total Projected Program Budget & Savings by Subprogram**
Not applicable, there are no sub-programs.

5) **Table 2: Total Projected Program Savings by IOU**
Not applicable, this is a non-resource program.

6) **Short description of each subprogram**
Not applicable, there are no sub-programs.

Sub-Program

1) **Local IDSM ME&O Local Marketing**
2) **Sub-Program ID number: 3260 (EE) / 3286 (DR)**
3) **Type of Sub-Program: _X Core __Third Party __Partnership**
4) **Market sector or segment that this sub-program is designed to serve**

   All – integrated marketing efforts will reach out to all customer classes

5) **Is this sub-program primarily a:**
   a. Non-resource program **X** Yes__ No
   b. Resource acquisition program ___ Yes **X** No
   c. Market Transformation Program ___ Yes **X** No

6) **Indicate the primary intervention strategies:**
   a. Upstream ___ Yes **X** No
   b. Midstream ___ Yes **X** No
   c. Downstream ___ Yes **X** No
   d. Direct Install __ Yes **X** No.
   e. Non Resource **X** Yes __ No.

7) **Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC)** TRC ___ PAC ___

8) **Projected Sub-Program Budget**
   N/A – there are no subprograms.

Table 1: Projected Program Budget, by Calendar Year

	Program Year		
ENERGY EFFICIENCY	**2013**	**2014**	**Total**
Admin ($)	$489,090.72	$489,090.72	$ 978,181.44
General overhead ($)	$ 47,018.29	$ 47,018.29	$ 94,036.58
Incentives ($)	$ -	$ -	$ -
Direct Install Non-Incentives ($)	$ -	$ -	$ -
Marketing & Outreach ($)	$451,275.00	$451,275.00	$ 902,550.00
Education & Training	$ -	$ -	$ -
Total Budget	$987,384.01	$987,384.01	$1,974,768.02

	Program Year		
DEMAND RESPONSE	**2013**	**2014**	**Total**
Admin ($)	$483,079.44	$483,079.44	$ 966,158.88
General overhead ($)	$ 42,615.22	$ 42,615.22	$ 85,230.44
Incentives ($)	$ -	$ -	$ -
Direct Install Non-Incentives ($)	$ -	$ -	$ -
Marketing & Outreach ($)	$369,225.00	$369,225.00	$ 738,450.00
Education & Training	$ -	$ -	$ -
Total Budget	$894,919.66	$894,919.66	$1,789,839.32

9) **Sub-Program Description, Objectives and Theory**

a) **Sub-Program Description and Theory:**

Pursuant to D.12-05-015 Ordering Paragraph 133, which states that the IOUs shall "include in their revised Integrated Demand-Side Management Program Implementation Plan a clear plan to pursue integrated marketing in the 2013-2014 program cycles," SDG&E is establishing a new program for local IDSM marketing efforts. The main objective of IDSM local marketing efforts will be to continue to funnel customers from an awareness of our broad portfolio of programs to interest in specific and relevant programs for their needs. This will be done by continuing to promote the impact that integrated solutions can have for customers, with continued reach driving segmented efforts to increase interest in specific programs across the EE (including low-income,) DR, and DG portfolio of programs.

Local IDSM marketing efforts are an important link between the broader scope of statewide marketing efforts and individual program tactics. In the marketing model based on a tiered approach, local presentation of integrated portfolio solutions offered by SDG&E will help customers of all classes make the link between the higher level strategic messaging presented by statewide marketing and the most relevant and impactful programs presented in local program marketing efforts.

Per the guidance provided in D12-05-015, the local IDSM marketing program will include "marketing strategies, messages and material that simultaneously promotes demand-side resources to customers and seeks to educate them about the benefits of pursuing these resources where feasible." The plans related to IDSM marketing will "include the development of new marketing collateral and strategies that offer 'bundles' of Demand-Side Management resources/programs targeted to specific customer groups via 'one stop' approaches where possible."

The integrated awareness and education initiatives are intended to increase overall awareness, understanding of, and interest in SDG&E broad portfolio of solutions by communicating the following:

- The breadth of integrated solutions that SDG&E offers;
- The benefits that an integrated solution can deliver to the customer; and
- The availability of customized solutions that can be tailored to individual customer needs.

IDSM local marketing will extend across all customer segments for both residential and business customers. It will achieve the specific awareness and interest goals through the following efforts:

- Localized research on customer attitudes and perceptions;
- Education and awareness umbrella campaigns;
- Targeted business and residential engagement and outreach; and
- Continued development of interactive media based promotion.

As customers move from awareness of the entire integrated portfolio of EE and DR programs to interest in a specific type of program, campaigns and specific materials are needed to move the customer towards action/enrollment in a program. To this end, SDG&E is also requesting specific program marketing funding within each Energy Efficiency program or sub-program. Marketing dollars from specific programs will focus on "closing the sale" – creating customer desire out of easy to understand materials that clearly explain the benefits of that program. The marketing plan for each individual energy efficiency program is also a component of education, awareness and outreach and all marketing/ communication efforts will be complementary.

b) **Sub-Program Energy and Demand Objectives-**

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year

Not applicable for this program.

c) **Program Non-Energy Objectives**:

Table 3: Proposed Program Performance Metrics

	PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
LOCAL INTEGRATED MARKETING, EDUCATION AND OUTREACH (ME&O)		
PPMs	1. SDG&E will report successful integrated marketing efforts to the IDSM task force on a quarterly basis	2a
	2. During the period of 2013-2014, awareness and knowledge of integrated solutions offered by SDG&E will increase over a baseline to be set by SDG&E through new Attitude, Trial, Awareness and Usage studies to be conducted in 2013.	2b
	3. SDG&E will issue an annual report that identifies how well "integrated" SDG&E IDSM Marketing is, and including lessons learned and best practices shared with other utilities. (Y/N)	2b

Baseline data for Integrated Marketing at SDG&E does not currently exist. Therefore, funding dedicated to new research is one component of this overall program request.

d) **Cost Effectiveness/Market Need**: This is a non-resource program.

Past program and process evaluations on Statewide Marketing, Education and Outreach (ME&O) provide guidance and recommendations on modifications to the statewide marketing effort. The 2006-2008 Process Evaluation study conducted by Opinion Dynamics states:

> *"While the IOUs and SWM&O implementers define the "action" role as the role of the utility programs, the mechanism for moving consumers from general awareness and/or "propensity" to act to take action is unclear. It is difficult to ascertain how the consumer moves from general awareness to other steps such as where they can go to acquire energy efficiency knowledge, which units are the most energy efficient, and what they need to do for their home (i.e., how to take action)."* [1]

Based on this, the process evaluation Recommendation 2 states,

> *"To ensure that the SMW&O efforts ultimately lead customers to action, the SWM&O implementers and IOUs need to define a clear*

[1] Opinion Dynamics Corporation, "2006 - 2008 Statewide Marketing and Outreach Process Evaluation" October, 2008. Page 2.

> *path to action to move those exposed to messaging to the intended outcome, adoption of energy efficient measures, such as clearly stating the role that the website, 800 number, or other tools that will lead consumers to more actionable information and/or to IOU DSM programs."* [2]

SDG&E plans this local integrated marketing effort as a way to address the gap between the statewide effort and specific action to be taken through local program efforts. Through close coordination with the statewide marketing effort, the Local Integrated Marketing campaigns will aim to move customers along the path from general knowledge and awareness to interest in SDG&E's offered solution. Specific program marketing efforts will then continue the customer transition from interest and desire into action with the prescribed SDG&E programs or services.

Additional studies underscore the importance of local marketing efforts with the utility as the main brand behind the message. In a 2009 study completed by Interbrand, findings state that,

- *"Despite 26% of respondents saying that Flex Your Power (FYP) had a unique message about energy, a detailed examination shows that its key messages and actions are equally credited to other brands, as well as a fictional brand (Green Power).*
- *The utility brands in the study often performed at parity with or above FYP on message comprehension measures;*[3]

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

Finally, the IDSM Local Marketing program is addressing several directives in the 2012-2014 Demand Response Decision 12-04-045.

> *While the Utilities have begun to use integrated marketing funding to streamline their messaging to customers, we consider the IDSM marketing category an interim measure toward complete integration. The utilities should be making further strides towards integrated marketing.*[4]

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[2] Ibid. Page 9.
[3] Interbrand; Final Draft Public Brand Assessment Report; November 16 2009, page 11.
[4] Decision Adopting Demand Response Activities and Budgets for 2012 Through 2014. D12-04-045. April 19, 2012. Page 85.

e) **Measure Savings/ Work Papers**:
Table 4. Work Paper Status
Not applicable for this program.

10) **Program Implementation Details**

a) **Timelines:**

Table 5: Sub-Program Milestones and Timeline

Milestone	**Date**
CPUC Approved Decision on 2013-2014 EE Application	Q4 2012
Integrated Marketing Plan Development	3/31/2013
New marketing collateral developed	4/1/2012-5/31/2012
Integrated campaigns launched	6/1/2013
Sharing of best practices with IDSM task force	4/1/2013- 12/31/2014

b) **Geographic Scope**:
The geographic scope of the program will depend on the bundled solutions being offered; all geographic regions within SDG&E's service territory will receive some form of IDSM marketing or outreach.

Table 6: Geographic Regions Where the Program Will Operate

Geographic Region	**Local IDSM Marketing**
CEC Climate Zone 1	x
CEC Climate Zone 2	x
CEC Climate Zone 3	x
CEC Climate Zone 4	x
CEC Climate Zone 5	x
CEC Climate Zone 6	x
CEC Climate Zone 7	x
CEC Climate	x

Zone 8	
CEC Climate Zone 9	x
CEC Climate Zone 10	x
CEC Climate Zone 11	x
CEC Climate Zone 12	x
CEC Climate Zone 13	x
CEC Climate Zone 14	x
CEC Climate Zone 15	x
CEC Climate Zone 16	x

c) **Program Administration**
All program components to be administered by SDG&E

Table 7: Program Administration of Program Components

Program Name	Program Component	Implemented by IOU Staff? (X = Yes)
IDSM Local Marketing	Localized research	X
	Education and Awareness umbrella campaign	X
	Targeted outreach	X
	Interactive media	X

d) **Program Eligibility Requirements:**
Table 8: Customer Eligibility Requirements (Joint Utility Table)
Not applicable for this program.

Table 9: Contractor/Participant Eligibility Requirements (Joint Utility Table)
Not applicable for this program.

e) **Program Partners:**
Table 10: Manufacturer/Retailer/Distributor Partners
Not applicable for this program.

f) **Measures and incentive levels:**
Table 11: Summary Table of Measures, Incentive Levels and Verification Rates
Not applicable for this program.

g) **Additional Services:**
Table 12: Additional Services
Not applicable for this program.

h) **Sub-Program Specific Marketing and Outreach:**
Program is marketing and outreach based; descriptions/timelines are found in relevant sections of the PIP.

i) **Sub-Program Specific Training:**
Not applicable for this program.

j) **Sub-Program Software and/or Additional Tools:**
Table 13: Post-implementation Audits
Not applicable for this program.

k) **Sub-Program Quality Assurance Provisions:**
Table 14: Quality Assurance Provisions
Not applicable for this program.

l) **Sub-program Delivery Method and Measure Installation /Marketing or Training:**
Not applicable for this program.

m) **Sub-program Process Flow Chart:**
Not applicable for this program.

n) **Cross-cutting Sub-program and Non-IOU Partner Coordination:**
Marketing for all other IOU EE and DR programs will be coordinated with the Local IDSM Marketing program. The SDG&E Customer Programs Department, through which all EE and DR programs are administered, has a centralized marketing team responsible for all three tiers of marketing, including SW ME&O, Local IDSM Marketing, and individual local program marketing.

Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

Sub-Program Name		
Other IOU Sub-program Name	**Coordination Mechanism**	**Expected Frequency**
(Insert all SDG&E Customer Programs)	SDG&E Customer Programs Marketing Team	Part of daily job function
Coordination Partners Outside CPUC		
IDSM Task Force Members	IDSM reporting and Task Force meetings	Quarterly
CCSE	Statewide ME&O team	Monthly

o) **Logic Model:**
Logic model diagram appended at the end of the PIP.

11) **Additional Sub-Program Information**

a) **Advancing Strategic Plan Goals and Objectives:**
To accomplish the stated goals of the State of California, including the goals of A.B. 32 and the California Long Term Energy Efficiency Strategic Plan, Californians need to make energy efficiency "a way of life." California residents and businesses will have to better understand and change energy use behavior for California to achieve its goals. The

new statewide marketing effort will start customers down the path, but as described on page 309 of D-12-05-105, "statewide marketing and local marketing should still be coordinated and the strategies for each should be designed to complement each other." IDSM local marketing is a necessary step in the path to helping customers move from broad understanding of solutions to individual purchase and use of smarter products and services.

b) **Integration**

i. **Integrated/coordinated Demand Side Management**:
This is an IDSM program, which necessitates funding from both DR and EE in order to promote integrated solutions. There is no DG contribution to the IDSM marketing budget as SDG&E does not administer those programs in our service territory.

Table 16: Non-EE Program Information

Sub-Program Name		
Non-EE Sub-Program	**Budget**	**Rationale and General Approach for Integrating Across Resource Types**
Demand Response IDSM Marketing	$1,789,839.32	N/A

ii. **Integration across resource types**
Not applicable

c) **Leveraging of Resources**:
The local IDSM marketing program will leverage the investment associated with efforts identified in the Statewide Marketing, Education and Outreach application.

d) **Trials/ Pilots:**
Not applicable.

e) **Knowledge Transfer:**
Local IDSM Marketing efforts will be reported through the statewide IDSM Task Force. As described in Task 8 in the statewide IDSM PIP, the Task Force will work with the SD&GE marketing and outreach team to leverage statewide awareness and coordinated program messaging, and education efforts directing customers to utility local integration efforts and offerings.

12) **Market Transformation Information**:
Not applicable

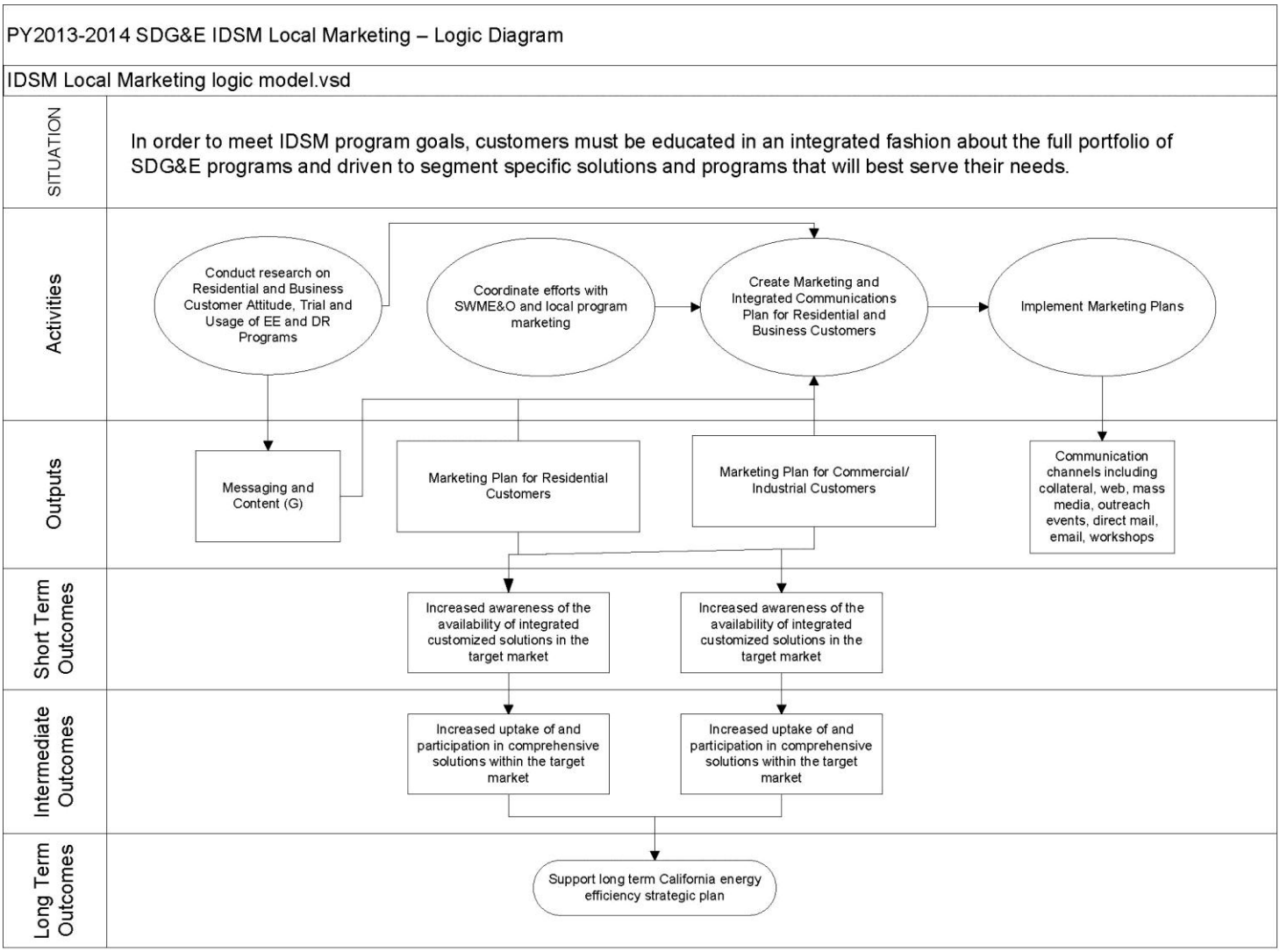
13) **Additional information as required by Commission decision or ruling or as needed:** The DSM Coordination and Integration chapter of the Strategic Plan envisions that DSM options be offered as elements of an integrated solution that supports energy and carbon reduction goals immediately. Through the 2012-2014 Guidance Ruling for the Demand Response Application,[5] the ALJ provided direction to the Utilities regarding the IDSM portion of their DR Application. In an effort to align DR and Energy Efficiency funding for IDSM activities, the Ruling directed the Utilities to use 2012 as a bridge year for DR IDSM funding and beyond 2012 all IDSM activities would be proposed and approved through the energy efficiency proceeding.

Ordering Paragraph of the 2012-2014 Demand Response Decision D.12-04-045 states that the IOUs "may request funding for post-2012 Integrated Demand-Side Management activities in their request for 2013-2014 Energy Efficiency funding. This is a request for continuation of the funding received under the DR decision for IDSM marketing funds for 2012.

Additional information regarding the role of statewide marketing and local marketing and the coordination between the two will be filed as part of the IOUs Statewide Application for Marketing Education and Outreach, as directed on Page 309 of the D.12-05-015, which states "In their August 3, 2012 applications for statewide marketing and outreach, the utilities should describe their expected roles and complementary strategies for statewide and local marketing efforts."

[5] R.07-01-041 Administrative Law Judge's Ruling Providing Guidance for the 2012-2014 Demand Response Applications. Page 14.

Program Logic Model: Local Integrated Demand-Side Management Marketing



1) **Program Name:** IDSM Behavior Change / Home Energy Reports
Program ID#:
SDG&E Program Type: Third Party Programs

2) **Program Description:**
SDG&E will continue to evaluate the benefits of a behavior-based energy efficiency utilizing a comparative energy use approach as authorized by the CPUC in Decision D.09-09-047 (p. 304) for the 2013-2014 transition period.

The purpose of this program is to increase customer awareness of their energy use and motivate them to take actions, which can include usage-based or equipment-based changes in behaviors, as well as increased participation in existing and future energy efficiency or demand response programs.

This program will leverage comparative energy use reports delivered to residential customers by U.S. Mail, email, web portal or any combination of the three channels in order to achieve greater customer awareness and energy savings. In addition, SDG&E will pilot energy use reports with a small sub-set of small commercial customers to examine the potential for increased energy awareness and behavior change demonstrated by energy savings. This program will also be leveraged to deliver energy efficiency and demand response program offers to the participating customers.

3) **Total Projected Program Budget and Savings**

Table 1

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	Third Party Programs					
3261	Local-IDSM-ME&O-Behavioral Programs (EE)	$241,524	$0	$2,243,665	$0	$2,485,189

Table 2:

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	Third Party Programs			
3261	Local-IDSM-ME&O-Behavioral Programs (EE)	0	0	0

4) **Short description of each subprogram**.

The program will provide comparative energy use reports delivered to residential and small commercial customers through U.S. Mail, email, web portal or any combination of the three channels in order to achieve greater customer awareness and energy savings.

Sub-Program
Program Implementation Plan Template[1][2]

1) **Sub-Program Name:** Residential & Small Business Behavior Change Program
2) **Sub-Program ID number:**
3) **Type of Sub-Program: _x_Core __Third Party __Partnership**
4) **Market sector or segment that this sub-program is designed to serve[3]:**

    a. _x_ Residential
        i. Including Low Income? __ Yes _x_ No;
        ii. Including Moderate Income? _x_ Yes __ No.
        iii. Including or specifically Multifamily buildings __ Yes _x_ No.
        iv. Including or specifically Rental units? __ Yes _x_ No.
    b. _x_ Commercial (List applicable NAIC codes: small Commercial customers with monthly demand less than 20kW)
    c. __ Industrial (List applicable NAIC codes: _____)
    d. __ Agricultural (List applicable NAIC codes: _____)

5) **Is this sub-program primarily a:**
    a. Non-resource program ___ Yes_ x_ No
    b. Resource acquisition program _x__ Yes ___ No
    c. Market Transformation Program ___ Yes __x_ No

6) **Indicate the primary intervention strategies:**

    a. Upstream ___ Yes _x__ No
    b. Midstream ___ Yes _x__ No
    c. Downstream __x_ Yes ___ No
    d. Direct Install __ Yes _x_ No.
    e. Non Resource __ Yes _x_ No.

7) **Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC)** TRC ___ PAC ___

8) **Projected Sub-Program Budget**

---

[1] Subprogram descriptions shall be provided for all subprograms, by all IOUs implementing the subprogram. Narrative text shall in general be identical across these submissions. For any unique IOU-specific deviations from the agreed statewide subprogram, each IOU shall indicate narrative text unique to their IOU by bolding or underscoring the relevant text. Unless otherwise indicated, budget and other tables may be unique to each IOU..

[2] Suggested page limit for subprogram PIPs: 15 pages for each resource acquisition and non-resource sub-program, and 20 pages for each market transformation-oriented subprogram. A "sub-program" of a statewide program has: a specific name, targets a specific market sub-segment or uses a unique delivery or marketing approach not used across the entire program; has a specific budget; and, for resource programs, has specific estimated savings and demand impacts.

[3] Check all that apply

Table 1. Projected Sub-Program Budget, by Calendar Year[4]

9) **Sub-Program Description, Objectives and Theory**

a) **Sub-Program Description and Theory:**

The goal of this program is for customers to modify usage-based and equipment-based behaviors in ways that reduce energy use. The mechanisms for changing these behaviors are: increasing customer awareness and understanding of their energy use while providing relevant tips and program offers.

This is a comparative energy use program delivered to residential and small commercial customers through reports delivered by U.S. Mail, email, web portal, or any combination of the three channels in order to achieve energy efficiency savings through behavior change. The provided information may include the following:

1. A normative comparison, contextualizing a household's or business' energy use against that of a set of neighbors or businesses with similar attributes.
2. A personal comparison, showing the household or business its energy use over time.
3. Energy efficiency and demand response recommendations comprised of tips and program promotions.

This program will also be leveraged to deliver integrated energy efficiency and demand response program offers to the participating customers.

Traditional economic models are based on price and information to drive rational choice, yet customers are still not adopting energy efficiency and demand response when it is clear they can save money.[5] The theory underlying comparative energy usage programs is that by providing customers information about their behavior though a comparison of their household or business energy use to that of similar households or businesses, along with relevant tips and offers, customers will modify behaviors and undertake actions and/or make energy efficient product purchases that result in energy savings. This program will help address the barrier that prevents customers from taking action even when it makes economic sense through the use of behavioral components such feedback, social approval and goal setting.

b) **Sub-Program Energy and Demand Objectives**

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year[6]

[4] Individual utility specific information to be provided in this table
[5] "Behavior and Energy Policy," Hunt Allcott and Sendhil Mullainathan, www.sciencemag.org, March 5, 2010
[6] Individual utility specific information to be provided in this table

	Program Years		
	2013	**2014**	**Total**
Sub-program Name			
GWh			
Peak MW			
Therms (millions)			

c) **Program Non-Energy Objectives**:

[Please refer to Attachment 1 of this template for instructions on how to provide Non-Energy Objectives]

d) **Cost Effectiveness/Market Need**: What methods will be or have been used to determine whether this program is cost-effective?[7] If this is a non-resource program, describe the literature, market assessments or other sources that indicate a need for this program.

Energy Division working with the utilities will develop a plan to estimate the impact savings for all programs.

e) **Measure Savings/ Work Papers**:

a. Indicate data source for savings estimates for program measures (DEER, custom measures, etc).

b. Indicate work paper status for program measures:

Table 4 – Work paper Status

10) **Program Implementation Details**

a) **Timelines:**

Table 5: Sub-Program Milestones and Timeline (example)

Milestone	Date
Project Initiation Meeting	8/3/12
RFP Issued	9/4/12
Vendor Selected	12/15/12
Contract Signed	1/15/13
Pre-Survey	1/16-3/30/2013

[7] If the program has energy and demand objectives, simply state that the methods contained in the Standard Practice Manual will be used. If the program does not have energy and demand objective, propose an approach to assess cost-effectiveness.

Program launch to customers	4/1/13
Conclude Pilot Program	12/31/2014
Bi-annual Progress Reports	6/30/2013 – 12/8/2014

b) **Geographic Scope**:

This program will operate throughout the SDG&E service territory in climate zones seven, ten and fourteen.

See Table Six

c) **Program Administration**

See Table Seven

d) **Program Eligibility Requirements:**

i. **Customers:** List any customer eligibility requirements (e.g., annual energy use, peak kW demand):

Eligible residential customers include those who reside in single-family homes with an average annual consumption of 10,000 kWh or greater. Eligible business customers include businesses in one or two NAICS codes.

Table 8: Customer Eligibility Requirements (Joint Utility Table)

ii. **Contractors/Participants:** List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).

Not Applicable

e) **Program Partners:**

a. **Manufacturer/Retailer/Distributor partners:** For upstream or midstream incentive and/or buy down programs indicate[8]:

Not Applicable

[8] Provide in a consistent format for all IOUs. Indicate program partners across all IOU territories in one table or spreadsheet. Append to end of PIP.

Table 10: Manufacturer/Retailer/Distributor Partners

b. **Other key program partners**: Indicate any research or other key program partners:

SDG&E will contract with a third party provider to deliver the reports and/or online capabilities.

f) **Measures and incentive levels**: E3 calculators will provide the list of measures and incentive levels to be provided via the program. In this section the utilities should provide a summary table of measures and incentive levels.

Not Applicable

g) **Additional Services:** List additional services that the sub-program will provide, to which market actors.

Not Applicable

h) **Sub-Program Specific Marketing and Outreach:** Please describe, providing timelines (suggested word limit: 300 words)

Comparative energy use reports can be delivered to customers via any of three channels: paper reports through the U.S. Postal Service or electronic reports via email, both of which are pushed to customers and are opt-out, or through a web portal, which is a pull strategy where customers opt-in by visiting the web portal. Depending on the vendor that is selected and their capabilities, SDG&E may utilize all three channels to test the effectiveness between the three in delivering behavior change savings and uptake in other energy efficiency and demand response programs. For the opt-out reports, the treatment group will be selected and automatically part of the program as the reports get delivered. In this case, the report itself essentially becomes the marketing mechanism. For the opt-in approach, SDG&E will utilize email and direct mail to communicate to customers and drive them to portal.

Based on the preliminary timeline, opt-out marketing would begin no later than April 2013 with opt-in marketing beginning no later than June 2013.

i) **Sub-Program Specific Training:**
Not Applicable

j) **Sub-Program Software and/or Additional Tools:**

a. List all eligible software or similar tools required for sub-program participation.
b. Indicate if pre and/or post implementation audits will be required for the sub-program.
   Pre-implementation audit required ___ Yes _x__ No
   Post-implementation audit required ___ Yes _x__ No
c. As applicable, indicate levels at which such audits shall be rebated or funded, and to whom such rebates/funding will be provided (i.e. to customer or contractor).

k) **Sub-Program Quality Assurance Provisions:** Please list quality assurance, quality control, including accreditations/certification or other credentials

Not Applicable

l) **Sub-program Delivery Method and Measure Installation /Marketing or Training:** Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above.

Marketing is described in Section h.

m) **Sub-program Process Flow Chart:** Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.

Not Applicable

n) **Cross-cutting Sub-program and Non-IOU Partner Coordination:** Indicate other IOU EE, DR or DG sub-programs with which this sub-program will regularly coordinate. Indicate also key non-IOU coordination partners. Indicate expected coordination mechanisms[9] and frequency[10]:

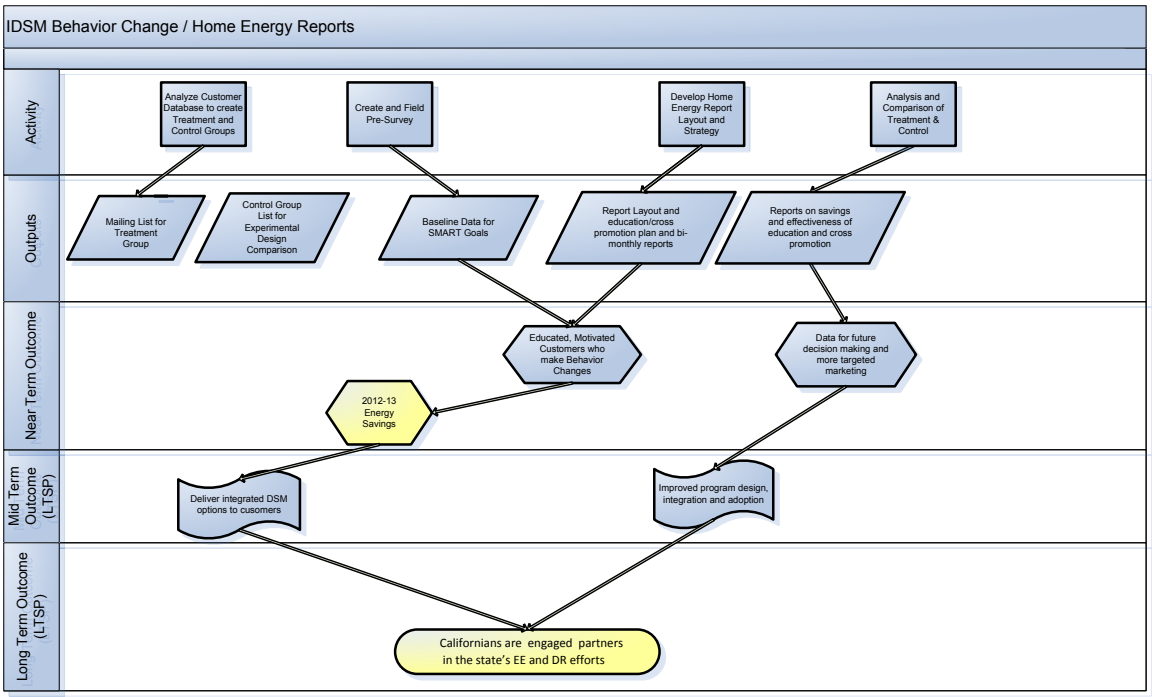
This program will coordinate with the vendor by holding, at a minimum, bi-weekly meetings and will also coordinate with various energy

[9] "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

[10] This does not mean there would be mutual understanding of the on the mechanism or a known frequency of coordination; rather, just provide enough information to give a general sense of the coordinate efforts.

efficiency and demand response program teams within SDG&E on a monthly basis.

o) **Logic Model:** Please append the logic model for this sub-program to the end of this PIP. Describe here any additional underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).



11) **Additional Sub-Program Information**

a) **Advancing Strategic Plan Goals and Objectives**: Describe how sub-program advances the goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan (word limit: 150 words)

This behavior change program supports the marketing, education and outreach vision of the California Energy Efficiency Strategic Plan:

> "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."

This program also supports the Strategic Plan's DSM goal to "Deliver integrated DSM options that include efficiency, demand response, energy management and self generation measures, through coordinated marketing and regulatory integration."

b) Integration

i. **Integrated/coordinated Demand Side Management**: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable.

This program will provide customers with access to their energy use data in a new context that is relevant and motivating. This program will be leveraged to deliver energy efficiency and demand response program offers to the participating customers.

ii. **Integration across resource types** (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach.

Not Applicable

c) **Leveraging of Resources**: Please describe if the subprogram will leverage additional investments by market actors or other state, local or federal agencies.

Not Applicable

d) **Trials/ Pilots:** Please describe any trials or pilot projects planned for this sub-program

Similar to the RD&D process where iteration is key, the same is true for this behavioral program. We will integrate offers and messages throughout the program and measure their impact and effectiveness, e.g. how does promoting another energy efficiency program through the report impact customer uptake or adoption.

Also as part of this program, SDG&E will be sending reports to a small sub-set of small commercial customers to determine if there is potential for comparative usage reports to provide savings and behavior change from this type of program.

e) **Knowledge Transfer:** Describe the strategy that will be used to identify and disseminate best practices and lessons learned from this sub-program

Best practices will be identified through the project management of the program. Best practices and lessons learned will be shared through with utilities and other stakeholders through the IDSM quarterly report and the EM&V.

12) **Market Transformation Information**: For programs identified as market transformation programs, include the following (suggested page limit- five pages):

i. A summary of the market transformation objectives of the program.
ii. A description of the market, including identification of the relevant market actors and the relationships among them;
iii. A market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies;
iv. A description of the proposed intervention(s) and its/their intended results, and specify which barriers the intervention is intended to address;
v. A coherent program, or "market," logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results[11];
vi. Appropriate evaluation plans and corresponding Market Transformation indicators and Program Performance Metrics based on the program logic model.

Not Applicable

13) **Additional information as required by Commission decision or ruling or as needed:** Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers):

Not Applicable

[11] If this logic model is the same as that requested in #10.(O), only provide once. As needed, provide a more detailed logic model emphasizing the market transformation elements of the program and/or how such elements integrate with resource acquisition elements.

ATTACHMENT 1

Program Non-Energy Objectives

For New or Substantially changed programs and sub-programs, provide the following information for Program Non-Energy Objectives and follow the format used for the previous cycle Program Performance Metrics found in Resolution E-4385.

i. List the primary SMART[12] non-energy objectives of the program. These should correspond to key methods identified above to overcome the market barriers, areas of concern or gaps, and to the outputs and short, mid- and long-term non-energy outcomes identified in the logic model requested below.

a) By the end of 2014, at least 20% of customers in the program will be engaged and aware of, and understand how, they use energy and how they can reduce energy use
b) By the end of 2014, at least 10% of customers will purchase or consider the purchase of a more efficient appliance
c) By 2020, people will stop wasting energy and will actively monitor and track their energy use and they will know what to do when they are over consuming.

ii. For each SMART objective, identify the quantitative targets, direction or percent of change that you hope to achieve during the program cycle.[13] .

At least 20% of customers will have increased awareness of their energy use and at least 10% will have purchased or considered the purchase of a more efficient appliance.

iii. For each proposed SMART objective, describe any relevant baseline data on current market conditions that you have assembled or plan to assemble and the sources.

[12] A SMART objective is one that is **S**pecific (i.e. quantitative and quantifiable generally, in terms of the results to be achieved**), M**easurable, **A**mbitious, **R**ealistic, and **T**ime-bound. For example, for a vender training component of an innovative commercial program, two SMART mid-term objectives and one long-term objective might be:

a) During the period 2013-2014, the number of HVAC installers in the SCE service territory who are able to perform quality installations of energy efficient packaged air conditioners will increase by 20%.
b) During the period 2013-2014, the number of installations of energy efficient packaged air conditions in the SCE service territory that are considered quality installations will increase by 25%.
c) By 2020, installations of energy efficient packaged air conditions in the SCE service territory that are considered quality installations will increase by 75%.

[13] Please also add any new program objectives and quantitative targets for statewide programs to the portfolio PPM/MTI reporting template.

Before and throughout the program we will survey the treatment and control groups to gather the necessary data to be used as the baseline.

iv. **Quantitative program targets (PPMs):** If not already provided above, indicate estimates of the number of measure units, buildings, etc. projected to be treated by the sub-program.

Not Applicable