

County of Riverside Partnership

1. Projected Program Budget	\$	995,550
2. Projected Program Impacts		
MWh		2,596
MW (Summer Peak)		0.55
3. Program Cost Effectiveness		
TRC		2.18
PAC		2.22

4. Program Descriptors

Market Sector: Nonresidential, small, medium and large customers
Program Classification: Local
Program Status: New Partnership

5. Program Statement

The 2006-08 County of Riverside (County) and Southern California Edison (SCE) Partnership Program is a new partnership and will be built on the lessons learned from several partnership programs in PY 2004-2005.

Riverside County is the fourth largest county in the state, stretching nearly 200 miles across and comprising over 7,200 square miles of fertile river valleys, low deserts, mountains, foothills and rolling plains. Riverside County shares borders with densely populated Los Angeles, Imperial, Orange, San Diego, and San Bernardino Counties extending from within 14 miles of the Pacific Ocean to the Colorado River.

Recent years have brought dramatic population growth to Riverside County. Between 1980 and 1990, the number of residents grew by over 76%, making Riverside the fastest-growing county in California. By 1992, Riverside County was "home" to over 1.3 million residents, more than the entire population of 13 states, among them Maine, Nevada, Hawaii, and New Hampshire. The unprecedented growth in the region has put tremendous pressure on the County and local governments to accommodate the growing needs of its constituents.

In recent years, Riverside County has invested over \$30 million on improvement projects in its facilities. These projects were implemented with the expectation of exceeding 20% beyond the minimum requirements of Title 24. The partnership will build on these efforts and seek opportunities to bridge the activities of the county with the energy efficiency resources and programs of Southern California Edison. This will be a collaborative effort with county facility managers and other internal organizations to build an infrastructure that would efficiently deliver cost effective energy efficiency projects and provide a comprehensive outreach and education element with the goal of raising awareness about the benefits of energy efficient. The County of Riverside facilities will be targeted for the retrofit and retro-commissioning (RCx) elements.

However, the education and outreach efforts will include cities, local government agencies and other public entities within the County of Riverside.

6. Program Rationale

This partnership is unique in that it allows existing resources to be leveraged; including technical and energy project management expertise to facilitate the implementation of needed energy efficiency projects. It will be built on the lessons learned from PY04-05 partnership programs. Examples of the 2004-05 partnership programs are the County of LA and UC/CSU partnership programs. Both programs contained several innovative strategies that overcame market barriers, and created acceptance and understanding of energy efficiency. The partners were able to leverage their internal infrastructure and avoid excessive marketing efforts, as well as, additional labor to gather pertinent building information required by the retrofit and retro-commissioning projects. The partnerships also coordinated the implementation of energy efficiency measures to its internal clients such as county departments and university campuses. This partnership model may be applied to other counties, such as Riverside, to build energy efficiency awareness and foster more urgency for energy efficiency and demand response. There is a significant amount of potential energy savings available from the large number of county facilities that will be served by the program.

7. Program Outcomes

This partnership program will deliver immediate electric and gas energy savings and peak demand reduction in Riverside County facilities. These energy savings will be accomplished by implementing retrofit and modernization projects utilizing SCE's traditional programs such as Standard Performance Contract (SPC), Savings by Design and will also include a pilot retro-commissioning (RCx) project in one of the Counties buildings. This RCx project will serve as a showcase to demonstrate a cost effective approach to optimize the operation of the facility, provide both electric and gas energy savings, reduce operating cost and improve occupancy comfort. The outcome of the projects will serve as an RCx example to promote to other county departments.

As the opportunities arise to expand the program to include other local government and public agencies, a larger facility pool will be created to capture more energy savings. This increase in facility pool will meet or exceed the overall program cost effectiveness while capturing "lost opportunities."

Other program outcomes will include:

- Develop opportunities for the county and other local governments to share best practices and lessons learned from partnership activities, especially in the areas of energy efficiency and retro-commissioning.
- Demonstrate that the partnership program can be extremely cost effective in EE projects implementation by supplementing the county's project funding with the incentives offered by the IOU's traditional energy efficiency program.
- Demonstrate the value of energy efficiency activities, and the benefits associated with having a local government energy efficiency management team that focuses

on timely implementation of cost-effective projects with attractive payback for local government entities.

- Demonstrate the feasibility of a local government entity with upper management support in energy efficiency, can create opportunities to save energy, reduce operating cost and improve occupancy comfort.
- Completion of energy project plan for the county, as a result of the project identification effort. This energy project plan is important to ensure that the county continues to plan and implement energy efficiency projects in the future.
- Collaborate with other partnerships on energy management workshops for county facility managers.

8. Program Strategy

The implementation strategy will capitalize on the lessons learned from other PY04-05 partnership programs. An emphasis will be placed on retrofits and modernization projects as well as having a strategic approach to education and outreach activities. Lastly, a pilot project will also be implemented to showcase the benefits of a retro-commissioned building. The partnership will also coordinate with other utility programs to provide additional values to residence and businesses in the County of Riverside. The county can promote programs such as the Small Business Direct Install program, SPC, Express Efficiency Rebate program and numerous residential programs.

Retrofit and Modernization Element:

This partnership will seek opportunities to reduce peak demand and create energy savings in County of Riverside facilities. The partnership will work with these facilities to identify projects and have a pool of projects available to plan for its implementation. These retrofit and modernization projects will include measures such as complete lighting retrofits (T5 technology, LED applications, newer 28 watt T-8's), building wide lighting controls, boiler replacements, installation of water heaters, tankless water heaters, and HVAC and chiller upgrades/replacements. Gas measures will apply contingent on Southern California Gas Company participation in the partnership program. The experience and knowledge acquired in identifying and implementing retrofit projects will be transferred to staff members of these facilities. It is the intent of this partnership to take advantage of the incentives available through SCE's traditional EE program, such as the SPC and Saving by Design. If implemented, these projects will receive incentives for incremental energy savings for each measure and each project will have to comply with the guidelines of those programs. SCE will work with its internal program staff to allocated appropriate incentive amount from both SPC and Savings by Design program to ensure that funding will be available when the county submits its projects to the Board of Supervisors for approval. Further discussion will need to occur with SCE program staff to determine the specific requirements for using the allocated program incentives. One stipulation may be the timing requirement for the use of funds. Incentives may be released to general program pool if not used by a specified date.

Retro-Commissioning Element (RCx):

This partnership will implement a pilot retro-commissioning (RCx) project in one of the Counties buildings. It will serve as a showcase to demonstrate a cost effective approach to achieve an optimized operating facility, save both electric and gas energy, reduce operating cost and improve occupancy comfort. The outcome of the projects will serve as an RCx example to promote to other county departments.

The partnership will apply the lessons learned from current RCx projects to streamline the RCx process for the pilot project. A contractor will be utilized for this task since the County staff does not have the resources or expertise to address the issues.

Education and Training Element:

This partnership will seek opportunities to implement some of the recommendations noted in the feasibility study on public agency collaboration which was conducted as part of the PY04-05 SCE/SCG/County of LA partnership program. The strategy is to increase awareness of upper management and to gain support of decision makers for energy efficiency projects. It will also leverage SCE and other partnership training programs.

The Education and Training activities will include a day long workshop for public agency facility managers. They will be trained on best practices for implementation of energy efficiency retrofit projects, building operations, and new technologies that may be utilized to effectively perform their daily tasks. In addition, this program will provide opportunities to learn and also share best practices with other city government entities. This workshop will be coordinated and delivered in conjunction with other partnership efforts. In addition, the partnership team will coordinate with SCE's Technology Center such as the Customer Technology Application Center (CTAC), to delivery various technical training courses to improve the skills and knowledge of county and local government facility staff.

9. Program Objectives

The primary objectives of the program are to produce cost effective energy savings, to identify EE projects for implementation and future planning and to develop strategies to disseminate energy efficiency knowledge and to share lessons learned with other local governments and public agencies. Specifically, these objectives include:

- Improved cost effectiveness on a \$/kWh or \$/therm basis for implemented projects.
- Improved partnership coordination and project implementation process.
- Increased transfer of energy efficiency knowledge and implementation experience to other local governments.
- Increased awareness and knowledge of the benefits of energy efficiency initiatives for local governments.
- More integrated efforts between partnership activities and utility programs offerings.

10. Program Implementation

The implementation plan for this program will apply the lessons learned from the other partnership program. The management structure of the partnership will be customized to allow for more flexibility in project assessment and implementation and for outreach to county departments and other local governments and public agencies. The projects will be managed by a team consisting of representatives from each partner (SCE and the County of Riverside). Each program element will be coordinated through specific project teams for RCx, Retrofit and Education/Training. These project teams may involve additional SCE staff, such as engineers and tech specialists, as well as other county staff.

SCE will have overall administration responsibilities of the partnership program. Both parties will work together to facilitate the application process for the county to participate in the utility’s traditional programs, sharing technical expertise, and coordinate project implementations. SCE will coordinate with the county to select the appropriate RCx provider and will contract with the RCx provide to implement the pilot RCx project. Contracting for retrofit construction work will be the county’s responsibility. However, SCE will provide technical assistance, if required, to address technical issues related to energy efficiency. Project decisions, as it relates to the partnership program, will to be made by the management team at the partnership level.

Retrofit Program Element:

The Retrofit element in this program will be implemented by the County of Riverside. The partnership will work with county facilities to identify projects and have a pool of projects available to plan for on-going energy efficiency efforts. The energy efficiency measures for retrofit projects will include electric and gas measures such as lighting retrofits (T5 technology, LED applications, newer 28 watt T-8’s), building wide lighting controls, boiler replacements, installation of water heaters, tankless water heaters, HVAC and chiller upgrades/replacements. The gas measures will apply contingent on Southern California Gas Company participation in the partnership program. The partnership experience and knowledge acquired in identifying and implementing retrofit projects will be transferred to staff members of these entities. SCE will work with its internal program staff to allocated appropriate incentive amount from both SPC and Savings by Design program to ensure that funding will be available when the projects are submitted to the Riverside County Board of Supervisors for approval. Further discussion will need to occur with SCE program staff to determine the specific requirements for using the allocated program incentives. One stipulation may be the timing requirement for the use of funds. Incentives may be released to general program pool if not used by a specified date.

The Retrofit Element will be implemented as follows:

The table below describes the major activities this partnership will conduct and oversee to implement the proposed retrofit program element.

Key Activity	Description
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Key Activity	Description
1. Identify funding for retrofit projects	The partnership management team will work with SCE staff to allocate funding under SPC and Savings by Design program for retrofit projects.
2. Collaborate with facility managers to discuss retrofit opportunities and get buy-in for project	The partnership will meet with representatives from targeted departments to discuss EE opportunities and obtain upper management approval for projects.
3. Identify key stakeholders to participate in retrofit program	The management team in collaboration with targeted agency, will identify key stakeholders in each agency to participate in the retrofit project team.
4. Develop process for identifying projects and to generate a pool of projects for agencies.	The retrofit project team will establish the process for identifying projects and develop forms and procedures to solicit projects and generate a pool of projects for potential retrofit work.
5. Compile and evaluate projects based on project criteria and cost effectiveness requirements.	The retrofit project team will perform due diligence on proposed projects to ensure that each project meets the criteria and cost-effectiveness requirements. Project team will provide a list of recommended projects to proceed with implementation.
6. Approve projects for funding	The management team will review project team recommendations for potential retrofit projects and will coordinate with SCE programs to facilitate application process
7. Coordinate project implementation with partners and contractors.	The retrofit project team will have oversight of project implementation and will coordinate with County and contractors to ensure successful and timely implementation of the projects.

Key Activity	Description
8. Verify project installation and provide incentive payments.	The retrofit project team in coordination with county staff and contractors will inspect roughly 25% of the retrofit projects. Retrofit projects with incentive levels in excess of \$100K shall be flagged for 100% inspection. Upon verification, project team will approve the completed projects for incentive payments.
9. Compile project results and complete final report	The retrofit project team will compile all relevant project information including measure information, energy savings, and program incentives paid, etc.
10. Coordinate with EM&V contractor where applicable.	If required, the management team will coordinate with the project teams and key stakeholders to support any requests from the CPUC approved EM&V contractor.

Retro-Commissioning (RCx) Program Element:

The RCx program element will be implemented as follows:

Key Activity	Description
1. Identification and selection of facilities to be RCx	Partnership management team (SCE, County of Riverside) will evaluate the potential of identified sites and select the most cost effective facility to proceed with the pilot RCx activities.
2. Develop site specific assessment tools and checklists	RCx project team (SCE, County of Riverside representatives) will establish the process for RCx activities and will coordinate with county staff to investigate facilities, determine equipment and systems, develop facility prioritization procedures. If available, the project will utilize the county EMS to monitor and track RCx parameters for sustainable and persistent savings.

Key Activity	Description
3. Market program, enroll customers	Partnership management team (SCE, County of Riverside) will establish marketing strategies and will meet with and educate County facility managers and administrators about program scope, goals, their participation and follow-up.
4. Hire contractors, determine roles	Partnership management team (SCE and County of Riverside) will coordinate with SCE staff to develop the RFP's, solicit bids and will select RCx technical resource, and implementer as required.
5. Hold building scoping meetings, site investigations, staff interviews	RCx project team in coordination with county staff and technical resources/contractor will analyze the data collected during the investigations and identify the specific facility in which to implement energy efficiency measures under this program.
6. Install monitoring systems for initial diagnostic monitoring.	RCx project team in coordination with county staff and contractors will work with the facility manager to record initial operating data.
7. Analyze data and develop recommendations	RCx project team in coordination with county staff and contractors will review data, determine recommended improvements, and determine feasibility. Improvements will include no-cost measures as well as potential retrofit measures. Recommendations will be review and approved prior to commencement of project implementation.
8. Implement improvements	RCx project team will have oversight of project implementation. County staff and/or RCx contractor will implement improvements.
9. Second round of diagnostic monitoring	RCx project team in coordination with county staff and contractors will work with the facility managers to record further operating data. If available, the RCx contractor will utilize EMS data to provide historical operating data. RCx Final improvement recommendations will be reviewed and approved prior to commencement of final improvements.

Key Activity	Description
10. Make final improvements	<p>RCx project team will have oversight of project implementation. County staff and/or RCx contractor will implement final improvements as needed.</p> <p>County staff and/or RCx contractor will also identify opportunities to retrofit EE gas and electric measures to improve building operation. Gas measures only apply if SCG participates in the partnership program.</p>
11. Train building staff	<p>RCx project team in coordination with county staff and/or contractor will provide training to facility management staff on implemented measures and recommended follow-up activities.</p>
12. Project close out, submit final report	<p>RCx project team in coordination will establish the formats and requirements for the RCx final report. The RCx contractor will provide the final report in the established format and will provide information such as lists of deficiencies, improvements, recommendations and project annual and long term savings.</p>
13. RCx Project Showcase	<p>Partnership Management Team (SCE, County of Riverside) will establish promotion strategies to showcase the RCx project and will educate county facility managers and administrators about project benefits and potential system-wide adoption of the RCx process.</p>

11. Customer Description

The customer base comprises of the County of Riverside facilities for retrofit, modernization projects. However, local governments and public agencies within the county will also be targeted for education and outreach efforts.

12. Customer Interface

The partnership will interface with various county departments (customers). The partnership in coordination with County of Riverside facility management staff will meet with and educate the facility managers and administrator in the county and other targeted agencies about the program scope, goals, their participation and follow-up.

13. Energy Measures and Program Activities

13.1. Measures Information

The retrofit measures may include lighting retrofits (T12 to T8, LED exit signs, HID, T5 technology), installation building-wide lighting controls, HVAC and chiller upgrades/replacements (packaged units and chillers) that are not part of the RCx program. These retrofit projects will receive incentives from SCE's traditional programs for incremental energy savings of each measure and each project will have to meet the required utility cost effectiveness guidelines.

The pilot retro-commissioning project will include building system optimization for lighting, heating and cooling loads. These RCx activities will identify opportunities to address system deficiencies for both gas and electric equipment. These deficiencies may require simple, quick fixes or may require a replacement of the inefficient or failed system component.

13.2. Energy Savings and Demand Reduction Level Data

Please refer to the E3 Calculator.

13.3. Non-energy Activities (Audits, Trainings, etc.)

The partnership program will provide training to facility staff on retrofit and retro-commissioning component of the program to allow for persistence and sustainability of achieved energy savings.

In addition, this partnership will seek opportunities to implement some of the recommendations noted in the feasibility study on public agency collaboration which was conducted as part of the PY04-05 SCE/SCG/County of LA Partnership program.

13.3. Subcontractor Activities

The Partnership will rely on contractors to carry out certain portions of the partnership program.

These subcontractors will include but not limited to the following:

Retro-Commissioning Contractors ("Contractors")

The partnership team which includes the SCE and county staff will oversee the procurement of an RCx Contractor to assist in the implementation of the RCx pilot project.

- The RFP will be developed by SCE staff in coordination with the management team to obtain a list RCx contractors.
- The project will be competitively bid from a pool of RCx Contractors, solicited under SCE procurement process.
- The scope of work for each successful contractor may include comprehensive audits, design, equipment purchase, and/or installation of the systems.
- The partnership team will be responsible for approval of all design and installation activities.
- The contractors will enter into a contract with SCE to provide the agreed-upon equipment and services.

- Finally, SCE staff will provide all project management services on behalf of the customer.

Retrofit Contractors

The County of Riverside will retain a consultant/contractor to assist with project identification, engineering analysis and submittal of project application to participate in SCE energy efficiency programs. The county will provide in-kind contribution for the labor to identify, perform engineering analysis, and apply for utility incentives. The in-kind labor cost for these activities will be covered as part of the county's project cost. The partnership will be able to assist the county and its facility management staff with issues related to energy efficiency and may provide funding for incremental work associated with the energy efficiency component of project implementation.

Marketing/Outreach Contractor

The partnership will utilize a contractor to assist with outreach and training efforts for county staff, local governments and public agencies within the County of Riverside and are served by SCE. The following tasks for the contractor will be assigned at the discretion of the partnership team.

The key tasks for this contractor may perform include but not limited to the following:

- Assist with development of technical project information
- Assist with coordination and outreach efforts to county, local governments and public agencies
- Assist with delivery of training and workshops to education, if required.

13.5. Quality Assurance and Evaluation Activities

The partnership team will establish and oversee quality assurance measures for the partnership programs, including oversight and verification of subcontractor activities. These procedures and the associated reporting will be developed in more detail as a part of program implementation. The management structure of this partnership will provide project teams, in each of the program elements, the opportunities to perform the level of due diligence and quality assurance that are consistent with current partnership and utility program, including a representative percentage of pre/post installation confirmation inspections for small hardware projects, and pre/post inspections on all large or specialized projects hardware projects (installation of energy efficient equipment, facility retrofits, and building commissioning and new construction projects).

13.5.1. Expected Number/Percent of Inspections (planned percent of projects)

Inspections will be conducted for 100% of the retrofit projects with incentive levels in excess of \$100K. The partnership team will coordinate the inspection activities with the utility program staff for SPC and Savings by Design to ensure that project meets the program requirements and guidelines. The pilot Retro-commissioning project will also be inspected prior to completion of project final report.

13.6 Marketing Activities

The Retrofit and RCx program elements will use a similar marketing approach. The partnership management team, in coordination with county and SCE staff, will conduct marketing and outreach efforts that will be accomplished mainly through contacts with facility administrators and managers to inform them of the availability of energy efficiency services available through the partnership and traditional utility programs. The partnership will also provide outreach efforts to local governments and public agencies within the County of Riverside and are served by SCE.

Key marketing activities will include:

Key Activity	Description
Outreach	The partnership management team in coordination with county administrative staff will begin outreach efforts by contacting the heads of facilities management for each department to inform them of the availability of funds for approved measures and activities in county facilities. The team will schedule meetings to discuss the options, implementation criteria, and benefits of program participation, as well as program offerings.
Customer Follow-Up	The partnership management team in coordination with staff from Riverside County and SCE will visit each targeted site to talk with facilities manager(s) about the various options and proposed energy efficiency measures. After confirming an appropriate site for implementing measures and/or retro-commissioning, The management team will meet with the appropriate facilities managers to present the anticipated energy savings and other benefits and considerations associated with the implementation.
Implementation – Training	In addition, the partnership management team will share energy efficiency knowledge and implementation experience with other local government public agency entities through a series of meetings and workshops. These meetings and workshops will be coordinated with other partnership programs.