

California Department of Corrections and Rehabilitation

1. Projected Program Budget	\$	2,898,675
2. Projected Program Impacts		
MWh		6,912
MW (Summer Peak)		1.46
3. Program Cost Effectiveness		
TRC		1.98
PAC		2.01

4. Program Descriptors

Market Sector: Prisons and Rehabilitation Facilities
Program Classification: Statewide
Program Status: New

Southern California Edison (SCE), The California Department of Corrections & Rehabilitation (CDCR) and the other three Investor Owned Utilities (IOUs) are collaborating on a new Energy Efficiency Partnership program to share energy efficiency best practices and to implement energy efficiency projects for immediate and long-term energy savings and peak demand reduction.

Beginning July 1, 2005 the Youth and Adult Correctional Agency (YACA) has ceased to exist. YACA consisted of two major departments, the California Youth Authority (CYA) and the Department of Corrections (DOC.) These departments had merged to form the new California Department of Corrections and Rehabilitation (CDCR). The combined organization will be comprised of 34 adult facilities and 16 parole offices. These facilities will have approximately 37,715,415 square feet of occupied space. There will be an additional of 8 youth facilities with approximately 10 million square feet and four camp locations. Through this transition, SCE and the other IOUs, will collaborate with CDCR to develop an implementation plan and schedule that will minimize the impact of the consolidation. SCE and the IOUs had numerous meetings to determine the strategies and implementation elements of the program. In early 2006, the IOUs will work with CDCR facility staff to identify opportunities for energy efficiency projects by conducting audits at each of the locations and compiling the data to create a pool of projects for implementation. The partnership will perform preliminary investigations on all the facilities and will start implementation of projects in the latter part of 2006 and will continue to ramp up the program in 2007 and 2008.

SCE, CDCR and the other IOUs are confident that this partnership will be very successful through the three-year period and are committed to expanding the program into the future.

5. Program Statement

In recent years, the DOC had implemented many energy efficiency projects and had encouraged energy conservation behavior in all its facilities. Despite the efforts, there are still tremendous opportunities for energy efficiency and demand response projects in the adult facilities and many more potential projects in the former Youth Authority facilities. Many of the facilities have not had the funding to implement comprehensive energy projects. Those that have completed projects in the past are due for updated technology and retrofits. In addition, most of the institutions will be expanding by approximately 1 million square feet per site to comply with the State mandate for additional treatment centers at each of the facility. There is a major opportunity for the partnership to influence the design and implementation of energy measures into these facilities and capture potential lost opportunities.

The CDCR/IOU Partnership will consist of several components, which will include Retrofits, New Construction, and Retro-Commissioning projects. The partnership will also focus on Training and Education, which will provide information on best practices for energy efficiency management and conservation practice that targets not only the maintenance and operations staff but also on the wardens and other end-users at each of the facilities.

This type of partnership has proven to be successful with other statewide and local partnership programs for 2004-2005 and the CDCR have welcomed the opportunity in development of a new partnership program with SCE and the other IOU's. The CDCR is committed to delivering cost-effective persistent energy savings. They are looking to the IOU's for guidance and assistance to ensure program success.

6. Program Rationale

The CDCR/IOU Partnership will leverage the on-going renovation and expansion of the CDCR institution. The IOU's can help develop an emphasis on energy efficiency to incorporate into each of the institutions. This program capitalizes on the vast resources and expertise of CDCR, SCE and the other IOUs to assist in making this a successful and cost-effective program to meets all objectives set forth by the California Public Utilities Commission (CPUC or Commission). The new CDCR/IOU Partnership will incorporate lessons learned from previous statewide partnership programs in the areas of improved program delivery efficiency and communication between the stakeholders. The timing of the CDCR/IOU Partnership is critical; the CDCR is embarking on a major change in their department. They are going to be part of a very large organization that will not only include the Department of Corrections, but it will now include California Youth Authority. There is a major need for improvement to each of these facilities that have not had an on-going Energy program. Each location is also embarking on a major expansion where each of the adult and youth facilities will have treatment centers (medical facilities) on-site. In most cases, these facilities are more than a half-million square feet and there is a need for technical and financial input from the IOUs to ensure that the resulting new and existing buildings are as energy efficient

as possible. There needs to be a major focus on energy efficient design of the buildings from the start. There is also a need to educate the institutions on sustainability and persistent energy opportunities and focus on implementation.

7. Program Outcomes

The partnership will consider the framework and implementation methodology of the existing statewide and local government partnerships. However, the partnership team will tailor its management structure and implementation plans that will best address the needs and uniqueness of the CDCR Institutions. This program will draw upon the lessons learned from other partnership programs and will improve its design and implementation processes to ensure a sustainable, long-term, comprehensive energy management program at the CDCR Institutions.

The following are the desired outcome of the CDCR/IOU partnership program:

- An energy efficiency partnership designed to efficiently accomplish immediate and long-term energy and peak demand savings goals.
- Improvement in communication and collaboration amongst SCE, the CDCR and the other IOUs, that effectively delivers energy efficiency programs.
- Effective dissemination of information to increase awareness and acceptance of energy efficiency practices.
- Create an infrastructure for the permanent adoption of processes at the campus system level, and
- A paradigm shift at the energy manager level for energy planning and decision-making.

8. Program Strategy

This program will capitalize on the vast resources and expertise of the CDCR and IOUs to ensure a successful and cost-effective program that meets all objectives of the CPUC as articulated in Decision 03-08-067. It will contribute to the goals of the state Energy Action Plan to optimize energy conservation and resource efficiency, and to the Governor's Green Building Action Plan goals which is to reduce energy by 20% in the next (5) years. Since this initiative is an aggressive goal for the CDCR facilities, SCE and the other IOUs are committed to establishing an overall energy efficiency implementation strategy that will assist the institutions in delivering on this mandate. It will be an even bigger challenge not only including the Department of Corrections but also incorporating the California Youth Authority that has a significant amount of energy efficiency opportunities.

In 2006, the CDCR will continue its transition to merge with the Youth Authority. The transition will have some impact on the roll out of the partnership. Beginning July 1, 2005 the Youth and Adult Correctional Agency (YACA) has ceased to exist. YACA consisted of two major departments, the California Youth Authority and the Department of Corrections. These departments had merged to form the new California Department of Corrections and Rehabilitation (CDCR). Many programs that had separate functions under YACA, including energy management, will

consolidated under one organizational entity. . All energy related responsibilities juvenile and adult facilities will be delivered through the Energy Management Section (EMS) of CDCR. Prior to the reorganization, the EMS, dealt solely with the adult facilities. The EMS is in the process of evaluating, surveying and gathering energy usage information for the juvenile facilities. The juvenile facilities will be fully integrated into the partnership program.

The partnership will assist with energy audit activities for each of the facilities and then develop Retrofits, New Construction Projects, and Retro-commissioning on existing buildings to deliver sustainable and persistent results. These elements will operate on a statewide, integrated basis, providing immediate energy savings and setting the foundation for a long-term program focused on sustainability and best practices.

Retrofit Program Element :

The Energy Management Section of CDCR will have overall responsibilities for the implementation of Retrofit projects. SCE and the other IOUs will collaborate with CDCR to identified potential projects. Preliminary audits have already provided potential project information. However, the Partnership will conduct additional facility assessment to identify projects and provide a project list for implementation.

The energy efficiency measures to be implemented may include both 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 and central plant projects. Other activities may include assessment and implementation of EE measures for waste water treatment operation and foodservice preparation.

New Construction Element :

New Construction projects will focus on sustainability and long-term energy savings opportunities. SCE will work closely with the Savings By Design (SBD) program to identify those projects that have already participated in the SBD program and will work with those projects that have not taken advantage of the New Construction programs in the past and use the Partnership to leverage those opportunities and energy savings potential. CDCR will be adding new treatment centers at each of its facilities and will provide opportunities for the partnership to recommend and implement those measures that provide persistent energy savings and to capture the lost opportunities by those projects that have been value-engineered out of the project scope due to budget and time constraints.

Retro-Commissioning (RCx) / Monitoring-Based Commissioning (MBCx):

This element of the program is a unique approach to obtaining savings that combines the expertise of SCE with the resources of CDCR facility management staff. The partnership will provide additional utility and subcontractor expertise, and the installation of energy monitoring and metering equipment at the building system level on an as needed basis. Through these resources, a systematic, comprehensive RCx/MBCx program will implement projects in existing buildings. It will provide a cost effective approach to achieving optimized operating facilities, save both electric and gas energy, reduce operating cost and improve occupancy comfort.

9. Program Objectives

CDCR is going through a major re-organization. As noted above, information is not readily available for each of the Youth Authority facilities. The partnership will provide assessment assistance to identifying the areas for opportunities and then work with CDCR to develop a strategy on how to meet the overall goals of the program.

SCE's objectives for the CDCR/IOU Partnership include:

- Extending the reach and effectiveness of SCE's traditional Energy Efficiency and Demand Response programs;
- Positioning the partnership to be strategic partners that help SCE reach additional customers and impact their energy decisions,
- Taking advantage of existing organizational infrastructure to effectively implement programs and projects; and

CDCR objectives for the partnership include:

- Achieving immediate, cost-effective energy and demand savings;
- Implementing energy efficiency components in new and existing buildings that are currently not being implemented due to funding constraints;
- Develop a successful energy efficiency program that will build momentum and create a program that goes further than the 2006-2008 program years;
- Improved energy efficient operations and maintenance practices; and
- Training of CDCR staff to identify and implement energy efficient opportunities.

10. Program Implementation

This partnership P brings a unique opportunity to deliver cost effective energy savings on facilities that are in dire need of improvement. The implementation strategies will include retrofit projects at the institutions, New Construction projects, retro-commissioning or monitoring based commissioning (MBCx) projects when applicable, and a Training and Education element. The types of measures that can be implemented within these facilities range from lighting, building wide lighting controls, to more extensive projects such as chiller and central plant upgrades along with boiler improvements and replacements. When applicable, the

partnership will consider retro-commissioning and/or monitoring-based commissioning process to optimize existing buildings. Furthermore, the partnership will also look for opportunities in other types of energy consuming measures such as waste-water treatment facilities, and cooking process for food preparation facilities.

Through the partnership, CDCR will be able to build an infrastructure that is sustainable and focuses on long-term energy best practices. It also allows the utilities to focus on the varying needs of the institution and provides the IOUs with opportunities to capture even greater energy savings while expanding and building long-term relationship.

11. Customer Description

The Department of Correction and Rehabilitation (CDCR) facilities in the SCE service territory.

12. Customer Interface

The 2006-2008 CDCR/IOU Partnership will utilize similar program management and team interface structure established by partnership programs in previous cycle. SCE and the other IOUs will collaborate with CDCR to manage and implement the partnership. Staff from each utility and the CDCR Energy Management Section will be responsible for the successful execution of the program. The partnership will utilize a program consultant to provide overall program management and partner interface and communications functions.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures

The CDCR/IOU Partnership will work with a full range of traditional and innovative energy efficiency measures, as well as many strategies to solicit potential projects from CDCR facilities. Examples include lighting, controls, HVAC, central plant and steam/chilled water-loop retrofit projects. There will be opportunities to influence project design in New Construction projects to include energy efficient measures that were previously value-engineered out of the project due to cost and time constraints. Additional activities, such as retro-commissioning and monitoring –based commissioning processes will be considered for existing buildings to optimize the operation of lighting, heating and cooling loads. The measures impacted by these activities may include lighting systems, building-wide lighting controls, control sequence adjustments, cost effective fixes of HVAC duct systems, perform adjustments to supply fans and installation of variable frequency drives. Monitoring devices may also be implemented in some of the building systems to provide system level benchmarks and ensure persistence in the resulting energy savings. Significant savings can be achieved through proper application of the RCx and MBCx process. Many other retrofit measures may be identified from the RCx/MBCx projects and will be

included in the comprehensive portfolio of measures identified during the solicitation process.

13.2. Energy and Demand Savings

A summary of the E3 calculator results provides the estimated program budgets and program impacts. Assumptions used in the workbooks were consistent with SCE's June 2005 filing. From these workbooks, energy savings metrics and program budget criteria that met the overall cost effectiveness tests were developed and used to estimate the program budgets and impacts.

13.3. Non-energy Activities

The CDCR/IOU Partnership will include non-energy activities such as making presentations, attendance at conferences, meetings, CDCR outreach events, distribution of marketing materials, on-site meetings, develop and deliver workshops and vocational energy efficiency classes.

The training and education component of the partnership involves training of facility design staff, project managers, energy managers and others in using energy best practices in the construction, retrofit, and retro-commissioning/monitoring based commissioning of existing buildings and central plant infrastructures.

The partnership will utilize a statewide approach to provide training on building operation and energy efficiency technology so that the best practices are incorporated into the facility standard operating procedure and will ensure long-term energy efficiency savings. The training and education component will work hand-in-hand with the three of the program elements – energy efficiency retrofits, new construction and retro-commissioning/monitoring based commissioning.

13.4. Subcontractor Activities

Subcontractors will assist in program administration and management, and in each of the three program elements. The consultant will assist, as needed, in the day-to-day coordination and communication among the partners (the CDCR and four IOUs). The tasks include but not limited to the following:

- Provide staffing to the management team and program specific implementation teams.
- Assist in identifying project tasks, establishing a schedule of deliverables and responsibilities, helping the IOUs to effectively deliver the program and assist CDCR to ensure successful program implementation, and obtain inputs from the partners and facilitate decision-making on key program elements.

- Assist in the three program elements, especially in the coordination and facilitation of partnership meetings and provide timely and accurate meeting minutes. The consultant will provide communications between the partnership and the CDCR facilities, as well as providing analytical assistance to the IOUs, and the CDCR Energy Management office.
- Provide assistance to the partnership with successful retention of subcontractors through competitive procurement processes, and helping to track and ensure successful program implementation based on specific deliverables required the Partnership.
- Assist the IOUs and CDCR in CPUC reporting by providing timely and accurate program information including program element status, project implementation status, and program expenditure information.
- Assist in development of workshop agendas and materials, identification of experts, and facilitation of workshops and training sessions.

The CDCR will hire energy efficiency retrofit subcontractors to install the energy efficiency measures for the retrofit component, and commissioning agents to assist in the performance of MBCx projects. CDCR may also hire engineering consultants to assist with project development, as needed.

13.5. Quality Assurance and Evaluation Activities

The CDCR/IOU Partnership team will establish and oversee quality assurance measures for the Partnership program, including oversight and verification of subcontractor activities. In general, however, the partnership will continue the level of due diligence and quality assurance by inspecting a representative percentage of pre/post installation confirmation inspections for small hardware projects, and pre/post inspections on all large or specialized hardware projects (installation of energy efficient equipment, facility retrofits, and building commissioning and new construction projects.)

The Commission-mandated EM&V effort will be completed by an independent subcontracts managed by the CPUC. If requested, the partnership will fully collaborate with the EM&V contractor to support the EM&V activities.

13.6. Marketing Activities

The CDCR/IOU Partnership will rely on existing communication networks between the CDCR institutions, EMS, and O&M staff. This combined with the partnership management team structure will facilitate marketing activities through pre-established channels for 2006-2008.

14. Conclusion

The CDCR/IOU Partnership Program is a new statewide program that will facilitate the improvement of CDCR institutions while lowering operating

costs. The Partnership will focus on a major education program, getting more familiar with each of the sites and identifying the areas to leverage Energy Efficiency opportunities in early 2006. This will be a major transition period for CDCR as the Department of Corrections and California Youth Authority merge into one organization. SCE will collaborate with CDCR on its efforts to implement energy efficiency projects and will continue through 2008. The partnership will position the program to be very successful in 2006-2008 and will expand into the future.