

**2006-2008 Energy Efficiency Programs
California Department of Corrections and Rehabilitations/IOU Energy
Partnership**

**PGE2019 California Department of Corrections and Rehabilitations/IOU Energy
Partnership (CDCR/IOU Energy Partnership)**

1. Projected Partnership Budget

\$7,680,000

2. Projected Net Partnership Impacts

MWh:	25,416
MW (Summer Peak):	5.514
Therms:	448,000

3. Partnership Cost-effectiveness

TRC:	2.12
PAC:	2.31

4. Partnership Descriptors

Market Sector: Nonresidential: Prisons and Rehabilitation Facilities

Partnership Classification: Statewide

Partnership Status: New

5. Partnership Statement

PG&E, the California Department of Corrections and Rehabilitation (CDCR) and the other three California investor-owned utilities (IOUs) are collaborating on the CDCR/IOU Energy Partnership, a new energy efficiency partnership 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) ceased to exist. YACA consisted of two major departments, the California Youth Authority (CYA) and the Department of Corrections (CDC). These departments 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 addition of eight youth facilities with approximately 10 million square feet and four camp locations.

Through this transition, PG&E and the other IOUs will collaborate with CDCR to develop an implementation plan and schedule that will minimize the impact of the consolidation. PG&E and the IOUs had numerous meetings with CDCR 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 investment grade audits on all large energy use

2006-2008 Energy Efficiency Programs

California Department of Corrections and Rehabilitations/IOU Energy Partnership

facilities and will start implementation of projects in the latter part of 2006 and will continue to ramp up in 2007 and 2008.

PG&E, CDCR and the other IOUs are confident that this partnership will be very successful through the three-year period and are committed to expanding in the future.

6. Partnership Rationale

In recent years, the CDC implemented many energy efficiency projects and 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 one million square feet per site to comply with the State mandate for additional treatment centers at each of the facilities.

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.

There is a major opportunity for the partnership to influence the design and implementation of energy measures into these facilities. CDCR/IOU Energy Partnership will consist of several components, which will include retrofits 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 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 has welcomed the opportunity to develop a new partnership with PG&E and the other IOUs. The CDCR is committed to delivering cost-effective, persistent, energy savings and is looking to the IOUs for guidance and assistance to ensure success.

7. Partnership Implementation Strategy

The CDCR/IOU Energy Partnership will leverage the ongoing renovation and expansion of the CDCR institutions. The IOUs can help develop an emphasis on energy efficiency to incorporate into each of the institutions. This partnership capitalizes on the vast resources and expertise of the CDCR, PG&E and the other IOUs to assist in making this a successful

2006-2008 Energy Efficiency Programs California Department of Corrections and Rehabilitations/IOU Energy Partnership

and cost-effective effort to meet all objectives set forth by the California Public Utilities Commission (Commission).

The new CDCR/IOU partnership will incorporate lessons learned from previous statewide partnerships in the areas of improved delivery efficiency and communication among the stakeholders. 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 to best address the needs and uniqueness of the CDCR institutions.

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. The transition will have some impact on the roll out of the partnership. 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 for the juvenile and adult facilities will reside in 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.

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.

The implementation strategies for the 2006-2008 CDCR/IOU Energy Partnership are listed below in detail.

7.1. Energy Efficiency Retrofits: The Energy Management Section of CDCR will have overall responsibilities for the implementation of retrofit projects. PG&E and the other IOUs will collaborate with CDCR to identify 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-efficient 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 energy efficient measures for waste water treatment and food service preparation.

2006-2008 Energy Efficiency Programs

California Department of Corrections and Rehabilitations/IOU Energy Partnership

7.2. Retro-Commissioning (RCx) / Monitoring-Based Commissioning (MBCx): This element is a unique approach to obtaining savings that combines the expertise of PG&E with the resources of CDCR facility management staff. CDCR/IOU Energy 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 element 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.

8. Partnership Outcomes and Objectives

CDCR/IOU Energy Partnership will work towards the achievement of immediate, long-term energy and peak demand savings and the establishment of a permanent framework for sustainable, long-term energy management for partner entities.

The desired outcomes of CDCR/IOU Energy Partnership include:

- An energy efficiency partnership designed to efficiently accomplish immediate and long-term energy and peak demand savings goals.
- Improvement in communication and collaboration among PG&E, 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.
- Creation of an infrastructure for the permanent adoption of processes at the facility system level, and
- A paradigm shift at the energy manager level for energy planning and decision-making.

PG&E's objectives for CDCR/IOU Energy Partnership include:

- Extending the reach and effectiveness of PG&E's demand-side management (DSM) programs and garnering greater energy savings than would otherwise be possible through traditional methods;
- Leveraging existing organizational infrastructure to effectively implement programs and projects.

CDCR objectives for CDCR/IOU Energy Partnership include:

- Achieving immediate, cost-effective energy and demand savings;
- Implementing energy efficiency components in new buildings that are currently being valued engineered out of the project due to funding constraints;
- Developing a successful energy efficiency program that will build momentum and create programs that go beyond 2006-2008;
- Improving energy-efficient operations and maintenance practices; and

2006-2008 Energy Efficiency Programs California Department of Corrections and Rehabilitations/IOU Energy Partnership

- Training of CDCR staff to identify and implement energy-efficient opportunities.

9. Partnership Customer Description

CDCR facilities in the PG&E service area.

10. Partnership Customer Interface

The 2006-2008 CDCR/IOU Energy Partnership will utilize similar management and team interface structure established by partnerships in the previous cycle. PG&E 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 partnership. The partnership will utilize a consultant to provide overall management and partner interface and communications functions.

11. Energy Measures and Partnership Activities

11.1. Measures Information

The cost-effectiveness calculator contains end-use summary measures for the calculated incentive component. Incentive levels for the targeted market programs were developed to reflect current market conditions.

11.2. Energy Savings and Demand Reduction Level Data

As noted in section 11.1 above, measure-specific energy savings and demand reduction level data are contained in the cost-effectiveness calculators. The end-use specific values provided in the Large Commercial program calculator are based upon historic values from the statewide programs such as Savings By Design. The achieved energy savings and demand reduction levels will be calculated for each project employing the calculated savings approach.

11.3. Non-energy Activities (Audits, Trainings)

CDCR/IOU Energy Partnership will include non-energy activities such as: making presentations; attendance at conferences, meetings, and 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.

2006-2008 Energy Efficiency Programs

California Department of Corrections and Rehabilitations/IOU Energy Partnership

The partnership will utilize a statewide approach to provide training on building operation and energy efficient 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 two of the elements – energy efficient retrofits and retro-commissioning/monitoring based commissioning.

11.4. Subcontractor Activities

Subcontractors will assist in program administration and management and in each of the 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 are not limited to the following:

- Provide staffing to the management team and specific implementation teams.
- Assist in identifying project tasks, establish a schedule of deliverables and responsibilities, help the IOUs to effectively deliver and assist CDCR to ensure successful implementation, and obtain input from the partners and facilitate decision-making on key elements.
- Assist in the three 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 EMS.
- Provide assistance to the partnership with successful retention of subcontractors through competitive procurement processes and help to track and ensure successful implementation based on specific deliverables required by the Partnership.
- Assist the IOUs and CDCR in Commission reporting by providing timely and accurate information including element status, project implementation status, and expenditure information.
- Assist in development of workshop agendas and materials, identification of experts, and facilitation of workshops and training sessions.

The CDCR may hire external or internal energy efficiency retrofit subcontractors/staff to install the energy efficient 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.

11.5. Quality Assurance and Evaluation Activities (including EM&V)

The CDCR/IOU Energy Partnership team will establish and oversee quality assurance measures for the partnership, including oversight and verification of subcontractor activities.

2006-2008 Energy Efficiency Programs California Department of Corrections and Rehabilitations/IOU Energy Partnership

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

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

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).

11.6. Marketing Activities

CDCR/IOU Energy 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.