

Statewide Codes & Standards Program¹

1. Projected Program Budget	\$	5,672,011
2. Projected Program Impacts		
MWh		n/a
MW (Summer Peak)		n/a
3. Program Cost Effectiveness		
TRC		n/a
PAC		n/a

4. Program Descriptors

Market Sector: Crosscutting
Program Classification: Statewide
Program Status: Existing

5. Program Statement

The Codes & Standards (C&S) program directs initiatives that will enhance building and appliance standards to codify cost effective, reliable and verifiable demand side measures in support of maximizing portfolio energy and demand savings. The statewide Codes and Standards program is in the process of transitioning from an information-only program to a resource acquisition oriented program that advocates upgrades and enhancements in energy efficiency standards and codes which targets all market segments. Program activities are conducted over long-term code upgrade cycles. A normal building code cycle requires four years of continuous support. Codes and Standards Enhancement (CASE) studies for energy efficiency improvements are performed for promising design practices and technologies and are presented to standards and code-setting bodies. The Codes and Standards program offers the state expert testimony to promote standards that approach best practices in energy efficiency, which becomes critically important when dissenting and occasionally conflicting opinions are presented during public workshops and the hearings process. Following the adoption of new codes or standards the program supports their implementation through activities designed to ensure compliance that currently include training. The program also monitors and intervenes as appropriate, in proceedings outside of California that potentially impact state standards. The US Department of Energy (USDOE) conducts federal appliance standards proceedings, for example, that preempt California state standards.

What's New for 2006-2008?

- Transitioning from an information-only program to a resource acquisition oriented program
- Increase funding for Codes & Standards
- Focus on next generation of codes, standards

¹ In accordance with D. 05-09-043, September 22, 2005, Ordering paragraph 14(e), "The final protocols for estimating these (energy savings) and verifying them shall be established during the EM&V phase."

6. Program Rationale

Saving energy and capturing resource and societal benefits are the primary reasons behind all energy efficiency programs. The Codes and Standards program achieves these results by assisting the state in modifying existing standards or setting new codes into law. Enhancements to codes and standards lead to significant electric and gas energy savings and electric demand reduction in two ways; by advancing the identification and early adoption of innovative technologies, and by establishing building and appliance standards for technologies that for economic or demographic reasons are no longer suitable for utility sponsored energy efficiency programs.

7. Program Outcomes

The Codes and Standards program is designed to enhance state and federal appliance and building energy efficiency codes, standards and guidelines. In 2006 through 2008, the Codes and Standards program will specifically support implementation of the California Energy Commission's Title 24 Building Energy Efficiency Standards and revisions to Title 20 Appliance Efficiency Standards and CASE initiatives that target enhancements to the Title 24 Building Energy Efficiency Standards rulemaking. Desired results include the following:

- Adoption of code enhancement proposals by the CEC that maximize cost effective customer energy savings potential
- Improved compliance with appliance standards that increase energy savings
- Effective monitoring and participation in USDOE rulemakings that directly impact California standards through preemption
- Effective participation in code setting and ratings organizations that potentially impact California standards
- Evaluation of 8 CASE studies that support future code enhancements
- Conduct 5 training courses. Each course shall address enhancements to the standards or efficiency guidelines that customers may use to construct code-compliant buildings and install appliances, respectively.

8. Program Strategy

The overall strategy is to provide information that is consistent with the public rulemaking process and setting. Initial information is provided through development of CASE studies that are presented to the CEC and docketed for reference. The Program Advisory Group (PAG) recommends that the program receive adequate attention to meet both near-term and longer-term goals. Recommended funding for 2006 has been increased by 50% over 2005 funding levels

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consistent with increased levels of energy efficiency portfolio activity and funding. Program staff will assess technologies which present the strongest opportunities to direct and influence code enhancements with significant energy savings. Codes & Standards activities create synergies with other programs, such as Emerging Technologies, energy

efficiency equipment rebates and energy audits. Staff will work with the Emerging Technologies program, as they provide comprehensive analysis of a technology's market potential, market barriers, incremental cost, adoptability, life expectancy, and life cycle costs – all of which determine at which point the technology can drive future code modifications.

Continuous support through expert testimony, technical research, market and economic analyses is required to sustain CEC efforts to mediate differences between proponents of changes and those with divergent interests.

9. Program Objectives

Promote energy savings through the identification, quantification, and substantiation (including training in order assure code compliance) of changes to building and appliance codes and standards which represent the beset practices in energy efficiency.

Codes and Standards program managers will work closely with California Energy Commission (CEC) staff, and other codes and standards advocates, since advocacy efforts within the public rulemaking process are more effective if carried out in a coordinated manner.

10. Program Implementation

Codes and Standards program managers will work closely with California Energy Commission (CEC) staff, and other codes and standards advocates, since advocacy efforts within the public rulemaking process are more effective if carried out in a coordinated manner. Prioritization of C&S activities will consider the applicable rulemaking proceedings, measure cost effectiveness, potential long-term energy savings, and demand savings of the enhancements. The IOU's Codes and Standards program staff plan to meet periodically to coordinate inter-utility activities so that the limited statewide funding is used efficiently. Activities will also be coordinated with other programs, as needed.

SCE, PG&E, SDG&E, and SCG will collectively consider CASE initiatives on various cost effective building and appliance energy efficiency measures. Implementation

Through the statewide Codes and Standards program, expert testimony is provided to promote standards that approach best practices in energy efficiency.

activities may include:

- Scoping studies addressing retrofit residential and nonresidential building code opportunities, or advanced energy codes
- CASE studies developed through contracts with consultants managed by utility staff
- Providing expert testimony to promote standards that approach best practices in energy efficiency

- Conducting informal workshops to solicit concepts, reconcile divergent opinions, and solve problems
- Compliance improvement training
- Participation in standards and ratings organizations
- Development of compliance options
- Development surveys to obtain information necessary to address knowledge gaps that constrain future building and appliance code enhancement proposals

Also, in accordance with agreements reached at the Statewide Energy Efficiency PAG Meeting held on August 2&3, SCE will investigate and provide an evaluation of the feasibility and effectiveness of a prescriptive requirement for the next building standards of an LED display of instantaneous power draw that changes color above 500 watts or some variable level that can be set by customers.

To insure transparency and up to date status of the nature and focus of the IOU's CASE study activities, the IOUs will provide an annual report that briefly summarizes activities in core program areas during the year including, but not limited to: CASE study development, market and information surveys, and compliance support. The summary will provide a detailed list of technologies or market areas identified for CASE study development. The annual report will be posted on a central website at the end of each year, and energy savings will be provided as available.

Initial energy savings projections for the next cycle of building and appliance standards will be based on the level of effort relative to residential building standards, nonresidential building standards, and appliance standards. Energy savings will be updated after reaching key milestones, including: completion of draft CASE studies, selection of CASE studies by the CEC, and adoption.

11. Customer Description

Through the statewide Codes and Standards program, expert testimony is provided to promote standards that approach best practices in energy efficiency. Key stakeholders impacted by these regulatory changes include equipment manufacturers, standard enforcement agencies, government institutions, agencies responsible for standard enforcement such as building departments, architects, engineers, designers, and building industry associations, among others.

12. Customer Interface

SCE, along with the other investor owned utilities, will actively work with the stakeholders cited above to make changes in the code. Our efforts will not only evaluate changes that are consistent with the goals of the California Energy Commission by conducting CASE studies, but SCE will also help transition any changes in the code by implementing training sessions for "customers". Thus there are two customer audiences that SCE will be targeting as part of these activities; (1) all stakeholders interested in making improvements to the energy code, and (2) local code compliance officials, building officials and other entities involved in the implementation of the energy efficiency standards.

1. **Code Change Stakeholders:** The California Energy Commission is clearly a large stakeholder in the activities of the Codes and Standards program. SCE will continue to work closely with CEC staff personnel to insure that our work is timely and relevant to their needs. Specifically, this takes the form of frequent meetings at the CEC, workshops with other interested stakeholders and conference calls as needed to either plan activities or provide status updates. This has been a successful tactic that will continue to be employed.
2. **Local Compliance Officials and Other Entities:** The key element of the “training and seminar” portion of the Codes and Standards program is to provide timely information regarding the implementation of any Code changes to local compliance and building officials. SCE will continue to offer training and seminars to engineers, architects and specifiers. The courses will provide information to help them better understand the Code changes and how to incorporate them into their designs.

13. Energy Measures and Program Activities

The 2006-2008 programs will focus on new opportunities to address retrofit residential and nonresidential building codes or advanced energy codes. Projects will share the objectives of informing state and federal agencies, verifying and enhancing the CEC’s appliance energy efficiency and building code standards, and, in some cases, enhancing manufacturers’ specifications and developing new statewide measures.

13.1. Measures Information

(See the portfolio workbook.)

13.2. Energy Savings and Demand Reduction Level Data

Energy savings and demand reductions are currently under development in accordance with D. 05-09-043 “The final protocols for estimating ... savings shall be established during the EM&V phase.²” Energy and demand savings projections will be updated in annual reports as soon as protocols are developed and key milestones are completed.

13.3. Non-energy Activities

As indicated above, one of the key goals of the Codes and Standards program is to conduct relevant training and/ or seminars to help in the dissemination of code changes and enhancements. Pending completion of a market survey to estimate actual level of code compliance from an energy savings perspective³, energy savings are not claimed from this activity. The target audience is code officials, builders, developers, engineers and equipment specifiers.

13.4. Subcontractor Activities

Although subcontractors may be employed, Design and Engineering Services staff is responsible for all aspects of the Codes and Standards program.

² D. 05-09-043, Interim Opinion: Energy Efficiency Portfolio Plans and Programs Funding Levels for 2006-2008 – Phase 1 Issues, September 22, 2005, Ordering paragraph 14, (e),

³ D. 05-09-043, Interim Opinion: Energy Efficiency Portfolio Plans and Programs Funding Levels for 2006-2008 – Phase 1 Issues, September 22, 2005, Ordering paragraph 14, (a), (iii)

13.5. Quality Assurance and Evaluation Activities

In accordance with D. 05-09-043, the protocols for estimating and verifying savings from this program shall be established during the EM&V phase of this proceeding⁴.

13.5.1. Expected Number/Percent of Inspections

In accordance with D. 05-09-043, the protocols for estimating and verifying savings from this program shall be established during the EM&V phase of this proceeding⁵.

13.6. Marketing Activities

Codes and Standards' only marketing efforts are those conducted for information dissemination. Along with posting relevant material on central website, SCE will deliver studies and reports to code-making bodies or organizations which would benefit from technology information as it relates to the code-making process. If seminars or training are conducted as a part of a Codes and Standards program, marketing materials will promote the events through e-mail, web site access, newspaper and trade association advertisements and flyers mailings to the appropriate target audiences.

14. Program Changes

These changes reflect the program transitioning from an information only program to a resource program.

- Greater collaboration with the other IOUs
- Greater transparency
- Leveraging of the consulting industry to solicit CASE study ideas
- Integrated IOU training approach
- Integration of market potential into the planning process

⁴ D. 05-09-043, Interim Opinion: Energy Efficiency Portfolio Plans and Programs Funding Levels for 2006-2008 – Phase 1 Issues, September 22, 2005, Ordering paragraph 14, (e),

⁵ Ibid