**Project Scope**

- New 230,000 square-foot office building completed December, 2008.

- Commissioning (Cx) was part of a larger Cx Cost-Benefit study for the California Energy Commission to evaluate the California Department of General Services (DGS) bringing Cx services in-house.

- HVAC and lighting systems were commissioned. Project is applying for LEED Silver certification, including EA Credit 3, Enhanced Commissioning.

**Benefits**

- Early involvement by Cx team provided valuable design review input and established relationships with the project team through the 3-year period from planning to design to construction to occupancy.

- DGS Building Property Management (BPM) branch engineers and operators were assigned on-site 6 months prior to occupancy. This was crucial to identify issues and resolutions daily with contractors and Cx agents while they were actively involved in equipment installations and start-up.

- AEC identified 20 specific deficiencies out of 54 Cx issues and assigned costs to measures taken for each. These will serve as lessons learned for future projects being designed by DGS and potentially influence decisions within DGS to allocate BPM staff early on future projects to perform Cx in-house through all design and construction phases.

This project demonstrated and recommends that within DGS, Cx staff should reside in BPM where their skills and experience lend the most value to the Cx process, and post-occupancy operations will receive the greatest benefits. Cx cost for the project was $0.59/sf, yet the study identified:

- $101,432 ($0.44/sf) in avoided first costs (costs that were or could have been avoided by contractors had they been identified earlier during construction, design or submittal review)

- $39,912 ($0.17/sf) in avoided future one-time costs (costs that could have been incurred in the future to remedy the problem had it not been identified during construction phase Cx)

- $105,491 ($0.46/sf) in avoided future annual costs (costs associated with periodic repair, maintenance, or energy costs that were or could have been avoided with a design or installation change)