



Coming Soon

More Training Opportunities

September 27

SkyCalc™

Trainer: Heschong Mahone Group

Get an introduction to SkyCalc, a simple-to-use spreadsheet that quickly calculates the energy impacts of skylighting system choices.

Association of Energy Engineers meeting in Oakland

Call (415) 972-5287 for more information.

September 28

Building Value into Your Property Through Energy Efficiency

Trainer: Eric Hafter

This workshop offers a practical guide for evaluating the financial benefits of incorporating energy efficiency into the development of renovations and remodeling projects.

SCE Irvine Operations Center

23 Parker Street, Irvine

Call (626) 812-7537 to register.

October 6

Daylighting Makes a Difference

Trainer: Barbara Erwine

See how you can quantify the benefits of daylighting in your next commercial project. Get an overview of basic daylighting design principles.

San Diego Marriott Mission Valley

8757 Rio San Diego Drive, San Diego

Call (619) 641-7131 to register.

October 6

Skylighting for Commercial Buildings

Trainer: Jon McHugh

Learn how to design skylighting systems (skylights, electric lights, controls, and building geometry) in commercial and industrial buildings.

Get an introduction to SkyCalc, a simple-to-use spreadsheet that quickly calculates the energy impacts of skylighting system choices.

San Diego Marriott Mission Valley

8757 Rio San Diego Drive, San Diego

Call (619) 641-7131 to register.

Visit the EDR website at:
www.energydesignresources.com

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DESIGN QUALITY ASSURANCE INTO YOUR PROJECT WITH BUILDING COMMISSIONING



Photo Credit: Warren Gretz

Effective building commissioning starts in the pre-design and design phases of a project, long before system inspections like this.

and building engineers need to understand that the groundwork for effective commissioning is an integral part of the pre-design and design phases of any project. In other words, to deliver a quality, well-functioning building to your client, you need to consider its commissioning from day one and perhaps even include commissioning as part of your portfolio of services.

WHY COMMISSION A BUILDING?

Savvy building owners have their projects commissioned because it is cost-effective over the life span of the building and gives them a competitive advantage with a building in which tenants are more comfortable and productive. Poorly performing buildings inherently have higher costs, and most owners would rather have optimized buildings. They want comfortable, healthy environments for their tenants and employees and recognize that a

Building commissioning helps ensure that building systems operate efficiently, meet the needs of the end user, function as designed, and maintain occupant comfort. The initial costs of commissioning are recovered many times over through increased operating savings, improved staff performance, and avoidance of costly construction problems.

Even though this process sounds like part of the operations phase of a building project, architects

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October 20

Design Tools for Analyzing Energy Use and Life Cycle Benefits

Trainer: Tom Lunneberg, PE

Gain hands-on experience with two free software tools, eQUEST™, a Windows™-based building simulation program that enables users to quickly input and run DOE-2 simulations for energy use analyses. With Energy eVALUator, you can estimate the life cycle benefits of energy-efficiency investments.

San Diego Gas & Electric, 8306 Century Park Court, Building Six (Emergency Operations Center 6126), San Diego

Call (619) 641-7131 to register.

October 26

Energy eVALUator

Trainer: Marlin Addison

Discover the advantages of using this Windows-based life cycle cost analysis tool to examine the economic impacts of various design decisions.

Pacific Energy Center

851 Howard St., San Francisco

Call (415) 973-7268 to register.

October 26

SkyCalc

Trainer: Heschong Mahone Group

Get an introduction to SkyCalc, a simple-to-use spreadsheet that quickly calculates the energy impacts of skylighting system choices.

AIA Golden Empire meeting at Hodels on Olive Dr.

Call (415) 972-5287 for more information.

October 27

eQUEST

Trainer: Marlin Addison

Learn hands on how to use this quick energy simulation tool to model commercial building energy use.

Pacific Energy Center

851 Howard St., San Francisco

Call (415) 973-7268 to register.

November 8

SkyCalc

Trainer: Heschong Mahone Group

Get an introduction to SkyCalc, a simple-to-use spreadsheet that quickly calculates the energy impacts of skylighting system choices.

Pacific Energy Center

851 Howard St., San Francisco

Call (415) 973-7268 to register.

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high performance building is a key element for business success. Unfortunately, building commissioning is not yet common practice and many new buildings do not perform as intended. This happens when short-sighted owners and developers are only concerned about first costs. And as buildings and systems have become more complex, the need for commissioning is even more important.

FIVE STEPS FOR SUCCESSFUL BUILDING COMMISSIONING

How can you increase the probability that your building commissioning process will go smoothly? These five steps are essential to a healthy commissioning process:

1. The designer selects or helps the owner select a commissioning provider during the design phase to help ensure that the project documentation reflects the designer's and owner's intentions.
2. Next, the designer incorporates commissioning requirements into the design specifications.
3. During construction, the commissioning provider inspects the building, and conducts or supervises pre-functional tests of all equipment and systems.
4. When the project is near completion, the commissioning provider and contractors conduct rigorous performance tests.
5. At the end of construction, the designer and vendors train the building operators on how to properly operate and maintain the building. The commissioning provider helps ensure that the operating and maintenance documentation is complete.

WHAT ABOUT COST?

The price of building commissioning varies depending on the size of the project, complexity of building systems, and the systems to be commissioned. Commissioning a new building typically costs about \$0.30 to \$0.90 a square foot. On average, simple payback periods for such investments range from three to four years as a result of energy savings, improved occupant comfort and productivity, and reduced callbacks.

The following ranges provide further rules of thumb:

- Total building commissioning: less than one percent of total construction cost
- Equipment commissioning: two to five percent of equipment cost

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November 9

SkyCalc

Trainer: Hescong Mahone Group

Get an introduction to SkyCalc, a simple-to-use spreadsheet that quickly calculates the energy impacts of skylighting system choices.

AIA Redwood Empire meeting at Joseph's in Santa Rosa

Call (415) 972-5287 for more information.

November 11

Advanced Building Modeling with EnergyPro 2.1

Trainer: Martyn Dodd

Expand your basic knowledge of EnergyPro 2.1 to produce designs that perform 15 to 30 percent better than the Title 24 energy standards. Get hands-on experience in modeling and upgrading envelope, lighting and mechanical designs to maximize Savings By Design incentives.

San Diego Gas & Electric

8306 Century Park Court, Building Six

(Emergency Operations Center 6126), San Diego

Call (619) 641-7131 to register.

November 15

eQUEST

Trainer: Marlin Addison

Learn how to use this quick energy simulation tool to model commercial building energy use.

Southern California Edison CTAC Center,

6090 N. Irwindale Ave., Irwindale

Call (626) 812-7537 to register.

November 28

Integrated Building Design

Discover how choices regarding various design components may be integrated to create comfortable and energy-efficient indoor environments.

Pacific Energy Center

851 Howard St., San Francisco

Call (415) 973-7268 to register.

December 5

Integrated Building Design

Discover how choices regarding various design components may be integrated to create comfortable and energy-efficient indoor environments.

Energy Training Center

1129 Enterprise, Stockton


Call (800) 244-9912 to register.

Although owners may say they cannot afford to pay for building commissioning, it is important to recognize the potential costs of not commissioning. These can include schedule overruns, change orders, litigation costs, high vacancy levels, uncomfortable occupants, excessively long shakedown periods, costly post-occupancy corrections, and inability to perform adequate operation and maintenance—all of which can far exceed the price paid for commissioning. Field experience has shown that an uncommissioned building can cost eight to 20 percent more to operate than a commissioned building.

NEW EDR BUILDING COMMISSIONING GUIDELINES COMING SOON

According to Misti Bruceri, program manager for commercial new construction at Pacific Gas and Electric Company, a new Building Commissioning Guidelines handbook will be added to the EDR portfolio by the end of the year. In addition, they are developing a "how-to" guide for designers and a CD-ROM of commissioning resources and reference material.

"Commissioning is an integral part of the integrated building design process," says Bruceri. "It helps ensure that the owner's needs are well documented at the beginning of the project and addressed throughout design and construction. A commissioning provider is the crucial link between the design, construction, and operation of a new building, which improves the likelihood of realizing the full savings potential of an energy efficient design."

Through its Whole Building Approach, the Savings By Design program offers commissioning workshops to eligible project teams to help you initiate the commissioning process for your commercial new construction project. Contact Savings By Design early in the design phase to receive the greatest benefits from the program. www.savingsbydesign.com 

For more information on building commissioning for architects and building designers, see the sources used for this article:

Energy Design Resources Design Brief:

Building Commissioning

www.energydesignresources.com/publications/design_briefs/db_bldgcomm.html

Western Area Power Association Technical Brief:

Building Commissioning.

www.es.wapa.gov/pubs/briefs/bld_comm/tb_bldcm.cfm

Portland Energy Conservation, Inc. www.peci.org