RESULTS

Tubular skylights and more efficient electric lighting provided dramatic energy savings and an improved work space. Full lighting power in the open office areas has been reduced from 2.4 watts/sq.ft. to 0.9 watts/sq.ft., while maintaining the desired light levels. In addition, the lighting energy efficiency measures at the site reduced internal heat gain and lowered cooling requirements.

Illumination levels averaging 50 foot-candles during the day are typical. Based on extensive data monitoring and evaluation using an energy simulation model (DOE2), annual energy savings, attributed to the tubular skylights, dimmable ballasts, and lighting fixture upgrades, are projected at 7.3 kWh/sq.ft.-yr. The reduced cooling load is also included in this calculation.

Employees have reacted favorably to their office space. Here are some comments from recent employee surveys:

"Having seen and experienced the system, I am considering installing a similar system in my home."

"I very much like having skylights."

RESOURCES

PG&E does not endorse particular products or services from any specific manufacturer or service provider. High efficiency products and services similar to those used in this project are available from multiple suppliers. For informational purposes, PG&E notes that the following companies provided equipment or services to the project:

- Dimmable Ballasts/Lighting Control Photosensors: Lutron Electronic Co., Coopersburg, Pennsylvania
  www.lutron.com — 1-800-523-9466

- Tubular Skylights: The SunPipe Company, Northbrook, Illinois
  1-800-844-4786

- Energy Analysis and Design: Davis Energy Group, Davis, California
  www.davisenergy.com — 530-753-1100

ADDITIONAL CONTACT INFORMATION

Pacific Energy Center, San Francisco, California
www.pge.com/pec/daylight — 415-973-7206

ACT@VeriFone Commercial Site Impact Evaluation Report
www.pge.com/pec/act2

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Shedding a Different Light
Unconventional skylights solved this company’s daylighting challenges.

Management at VeriFone, Inc., believed they could benefit from integrating daylighting features into their existing single-story office building in Auburn, California, so they worked with a PG&E ACT2 project team to find a workable solution. The 2,500 sq.ft. building’s high ceiling—suspended 10 feet below the roof—presented a challenge. It precluded the use of conventional skylights, forcing the designers to search for an alternative method for delivering daylight into the open office areas.

A new tubular type of skylight coupled with custom light wells solved the problem inexorably for this typical low-rise office building. More daylight in the space inexpensively for this typical low-rise office building. More daylight in the space.

Daylighting in the open office area allowed designers to reduce dependence on fluorescent lighting. The original 8-lamp T-12 fluorescent fixtures were replaced with 2-lamp T-8 fixtures with dimmable electronic ballasts. This fixture design has two lamps stacked one on top of the other to reduce glare on visual display terminals—a desirable effect requested by VeriFone employees, since each worker has at least one computer at his/her workstation.

The specified continuous dimming ballasts may be dimmed to 10% of light output, which reduces power consumption to 20% of full-load power. In addition to gaining energy savings from daylighting, the dimming ballasts may be used to tune light levels and provide human maintenance control.

For further information, refer to the ACT2 VeriFone Commercial Site Impact Evaluation Report at www.pga.com/ACT2.
DAYLIGHTING INITIATIVE

PG&E’S DAYLIGHTING INITIATIVE

PG&E’s Daylighting Initiative has two goals: to raise awareness of good daylighting practice within the design community and to improve the practice of daylighting design. This case study is one of a dozen case studies undertaken within the initiative. Together, they document a wide range of successful technical solutions, demonstrated across a number of different commercial applications.

The Daylighting Initiative includes projects that will make better design tools available to the daylighting design community. The Desktop Radiance project, a collaborative effort of Lawrence Berkeley National Laboratory and PG&E, is bringing the powerful Radiance lighting simulation capabilities into the practical world of architectural CAD software. The Daylighting Initiative also includes a series of workshopped and seminars at the Pacific Energy Center in San Francisco. For more information, visit the Daylighting Initiative’s web site at www.pge.com/pec/daylight.

Shedding a Different Light

Unconventional skylights solved this company’s daylighting challenges.

DAYLIGHTING AT VERIFONE

AUBURN, CALIFORNIA

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