



CASE STUDY

Smart Lighting for an Energy Efficiency Retrofit

PROJECT

E. O. Thompson Building

LOCATION

Austin, Texas

OWNER

Texas Facilities Commission

GROSS AREA

48,000 ft² controlled

TIMEFRAME

Installation completed May 2010

ENERGY SAVINGS

Post-commissioning savings: 8805 kWh/Mo.

CONTROL STRATEGIES

- **Daylighting**
- **Task Tuning**
- **Smart Scheduling**
- **Lumen Maintenance**
- **Smart Occupancy Sensing**
- **Personal Control**
- **Load Shedding/Demand Response**
- **BMS Integration with BACnet Protocol**



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OVERVIEW

The E. O. Thompson building is owned and operated by the Texas Facilities Commission (TFC), which is responsible for over 24.3 million square feet of leased and owned space in government properties across the state of Texas. The building is being retrofitted with Lumenergi technology as part of TFC's initiative to increase energy efficiency and cost savings while reducing the green house gas emissions of public sector buildings and other statewide facilities.

The building is a 10-story 1940 concrete and steel building. The project was an in ceiling retrofit of existing fixtures in all floor spaces. Stairwells and associated restrooms were not retrofitted. The fixture locations were not changed. All light levels were set to 50% or less with the exception of a few special users. Occupancy sensing controlled 90% of retrofitted lamps. Some offices were left on light switch control. The facility is remotely controlled by NetLight Executive building manager software residing in a separate Texas state facility.

Lumenergi collaborated with two local firms, Spawglass as general contractor and Essential Energy as installer.

SOLUTION

The customer wanted to have reduced energy use of the linear fixtures on all floors. The use of individual light levels in offices and open areas was required. Individual scene control was needed in several conference rooms. Daylight harvesting where appropriate was needed. Lumenergi software was used in conjunction with scene controllers and occupancy sensors and daylight and NetLight Controller to achieve the client needs.

This facility showcases the versatility of the NetLight solution. The NetLight Executive building manager resides in a separate facility, remotely controlling the building through a high speed connection. Lumenergi's system is fault tolerant with automatic local and remote server backup capability in the event of network failure, ensuring the integrity of system operation and energy usage data. Lumenergi has secure web access to the facility with a Cisco hardware VPN to perform any maintenance or upgrades.

RESULTS

Lamps were retrofitted with the NetLight IB-100. The controls were installed and commissioned using the Lumenergi default settings for office buildings. The usage in post commissioning saved 8805KWh/Mo. Energy usage can be closely monitored with Lumenergi's reporting, as seen in occupancy sensing and scheduling at work.



Comparing Days (People leaving work early for Christmas)



One Month View, Comparison by Hour

In addition to dramatic energy savings, Lumenergi's system provided the benefits:

- Adaptable lighting control capabilities including integrated daylight harvesting, occupancy sensing, task tuning, scheduling and personal control .
- Superior energy savings and increased comfort.
- Real-time monitoring, reporting, and optimization.
- Standards-based, open architecture with BMS (Building Management System) integration.

Lumenergi is a leading provider of intelligent, network-controlled lighting management solutions that are shaping the future of energy efficiency for commercial buildings. Lumenergi captures the deepest savings because it orchestrates smart devices with breakthrough software so that energy efficiency decision makers can be confident they will meet energy savings goals. Lumenergi's team has brought deep industry experience to its product line, which is recognized as the most technically complete and future-ready solution to manage commercial buildings' energy use. A privately held, venture-funded company based in Newark, California, Lumenergi is one of Silicon Valley's brightest and fastest growing clean tech companies.