

WCF - LEED Gold Building Certification Project

ILLUMRA Case Study



Salt Lake City, Utah

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INTRODUCTION:

WCF has insured Utah employers since 1917. WCF is a non-profit mutual insurance company managed by a board of directors. WCF employs 310 people who provide underwriting, safety, claims, and legal services to more than 20,000 Utah employers. They pay the same premium taxes as other insurance companies and contribute to Utah's economy by providing a stable and competitive source of workers compensation insurance.

THE CHALLENGE:

Provide a zoned area daylight harvesting system in all open areas of the facility that responds to both day lighting in the space and occupancy sensors. Function in harmony with the other building systems in the facility. The challenge was that the mechanical HVAC system installation included disc diffusers that provide for large amounts of air to move across the ceiling at high volume. This interfered with the sensing capability of the ultrasonic occupancy sensors used for lighting control in the large open office spaces. This issue was not recognized until the building was occupied by the owner after construction was completed.

THE SOLUTION:

Mark Wilson with Layton Sales Agency in Salt Lake City, Utah recommended that the ultrasonic devices be removed and replaced with Leviton's passive infrared occupancy sensors. These devices are not subjected to false triggering from the air movement. However this presented another issue, that being coverage in the large open offices. The ultrasonic devices covered a 2000 sq. ft. area and the PIR's only 1500 sq. ft. so several dead spots appeared in the spaces.

We solved the problem using Leviton's LevNET products combining the wireless receiver with the necessary number of solar powered wireless PIR devices in order to provide adequate coverage of each of the spaces. The receiver was mounted above the ceiling at an existing hardwired PIR location near the center of each lighting zone and used the same power and trigger wiring that existed at the device. The wireless motion sensors were paired with the area's receiver and then located as necessary to provide adequate motion coverage of the space. This allowed us to complete the project in one weekend and did not interrupt the day-to-day business use of the space resulting in no down time to the owner. It also reduced the labor cost significantly because no wiring was needed in order to complete the installation. Each area required multiple devices in order to provide coverage with the modular furniture layout. This was not a problem for the receiver which can accommodate up to 30 devices.

BENEFITS TO CUSTOMER:

The system functioned as required by the design team and the owner. Using the existing location for hardwired devices and then pairing that with the wireless devices resulted in minimal interruption to the owner. Substantially reduced installation cost resulted from the use of wireless devices. This allowed for energy savings from both daylight harvesting and on/off control of the facilities lighting. The facility was awarded LEED Gold status.

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