

LEDs SAVE MORE THAN ENERGY

If you're like many people, you may be delaying replacing the fluorescent bulbs in your home with LEDs because they come with a higher cost per bulb.

However, when you have to replace bulbs in a university-scale facility, the equation can quickly become a no-brainer, says F&S Building Craftsmen Supervisor Greg Moen. "LEDs help many facilities reduce maintenance costs in addition to helping campus save energy."

For example, says Moen, if electricians need to change a bulb in the high crane bay at Newmark Laboratory, they have to access the crane via a third-floor window--all while dragging tools behind them. To comply with federal Occupational Safety and Health Administration requirements, two electricians must be on that task instead of just one. This increases maintenance costs rapidly.

Before the LED upgrade, Newmark's high crane bay had 115 high efficiency fluorescent fixtures. Post upgrade, it has only 33 because LEDs produce more light, more efficiently. And where the previous bulbs lasted 4,500 hours, the new fixtures last 100,000 hours.

"This is a tremendous bonus on top of an energy savings of 81 percent," says Moen.

Another challenging location is the exterior dome of Foellinger Auditorium, where one of campus' most visible LED projects was completed last summer. The dome features 397 light fixtures which previously had an average life of only 1,000 hours. F&S elec-

tricians retrofitted the fixtures with 4W LED models, reducing the total lighting load from 9,925W to 1,558W. This amount is reduced further when the system's dimmers are used.

Even more dramatic than the energy savings is the labor savings since

each bulb now lasts 25,000 hours. Replacing lighting with LEDs is part of campus' commitment to make LED technology the major source of lighting.

"It is a true team effort from the people working on getting the funds and designing the new lighting systems, all the way to the people installing them," says Moen.



Changing a bulb on the roof of Foellinger Auditorium is a daunting task. The new LED bulbs last 25 times longer saving energy AND labor.

CONSIDERING LED LIGHTING?

Transitioning to LED lighting isn't as simple as replacing bulbs. To maximize efficiency and maintain safety, it's often necessary to retrofit or replace entire fixtures. Choosing the right fixture today ensures being able to economically replace components and bulbs in the future.

Talk to F&S about any LED upgrades to avoid getting stuck with nonstandard technology and to capitalize on savings from bulk purchases. Our staff can perform a cost-benefit analysis to determine the payoff period for switching areas of your facility to LEDs.

DEFINITELY USE LEDs FOR:

- 24/7 fixtures
- outdoor lighting (parking lots, facility)
- exit signs
- replacing overhead incandescent or metal halide fixtures

CONSIDER LEDs FOR:

- atriums
- auditoriums
- classrooms
- critical laboratories
- general laboratories
- high-use conference rooms
- museums
- theaters
- other areas not readily accessible for maintenance

WAIT* ON LEDS FOR:

- breakrooms
- low-use conference rooms
- offices
- restrooms
- areas where lighting is rarely used
- areas currently using T8 fluorescent lighting

**Energy efficiency costs may not yet cover total life cycle costs, especially when installation and maintenance are factored in.*

F&S Electricians Gareth Boyd (right) and Ben Kinder install new LEDs in the low crane bay of the Newmark Civil Engineering Laboratory.