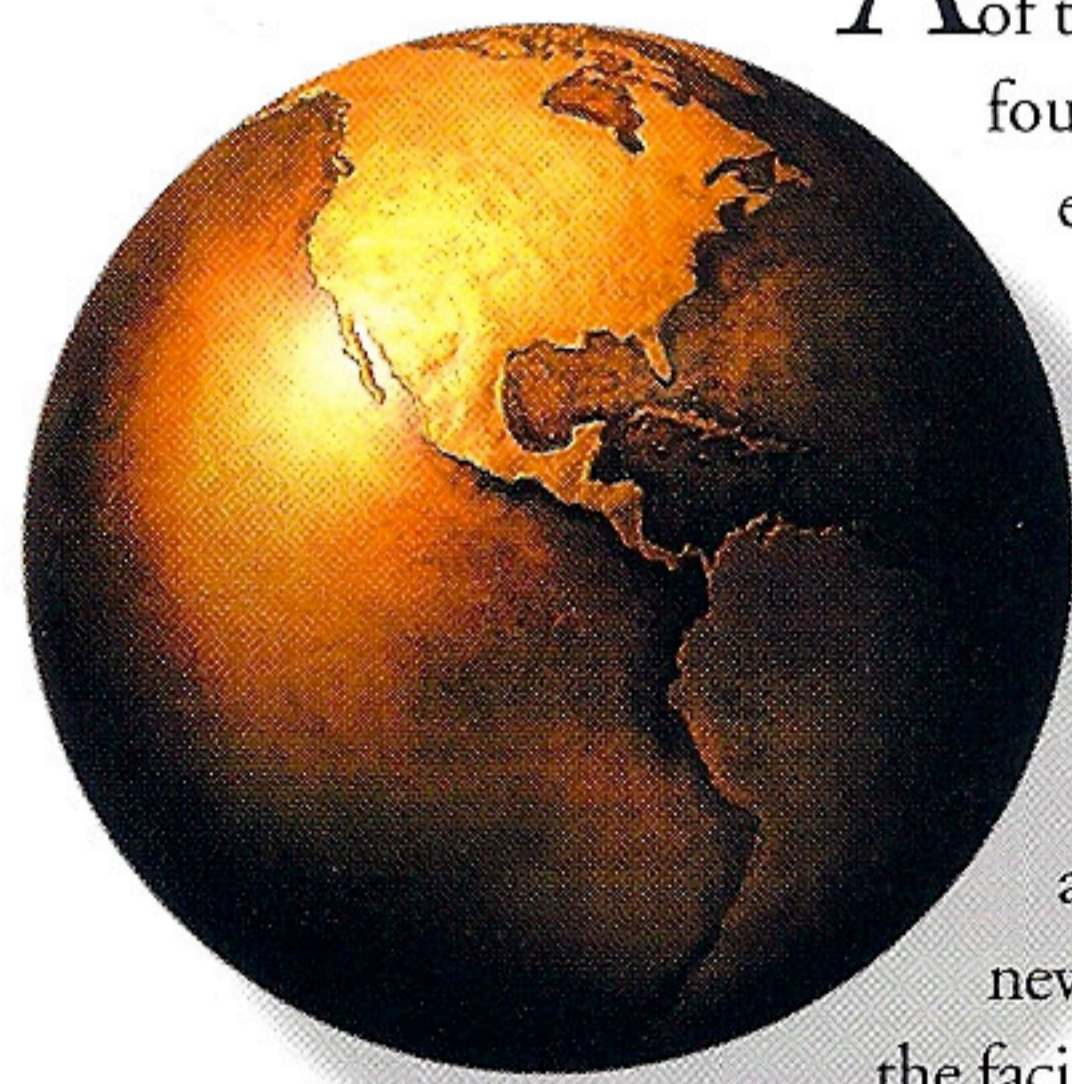


Seeing the light

Retrofit results in 50 percent power savings for one cataloger

By AP staff



Arandell Corp. (Menomonee Falls, WI), one of the largest catalog printers in the U.S., found a more cost-effective approach to energy savings in its decision to change plant lighting from the common high-pressure sodium variety to T8 fluorescent technology from Orion Energy Services (Plymouth, WI).

The lighting subject arose while Arandell was working on plans to obtain a new piece of printing equipment. The new equipment required its own section of the facility, which Arandell would need to develop prior to installation.

“In researching lighting vendors and options, Orion was the company that stood out,” says Dave Treis, Arandell’s vice president and GM. Treis specifically cited Orion’s fixtures’ ease of installation, energy efficiency and ability to improve working conditions.

Orion demonstrated the effectiveness of its lighting by setting up fixtures and measuring power consumption. “We were able to see the utility meter spin in a side-by-side comparison between our old lights and Orion’s,” says Treis. “You could see exactly how much power we were going to be saving. After that demonstration, it became an easy decision for us to install Orion products.”

After installing Orion lights in the new



Orion’s T8 fluorescent lighting does a good job of illuminating while minimizing shadows—even when light from above has numerous obstacles in its way.

Enough light from the recessed Illuminator fixtures is reflected off machines and floor to illuminate the ceiling and produce a bright-looking room.

Work areas are well lit with Orion lighting and there is a notable absence of shadows (except directly under objects such as tables or skids).

Saving the planet one kilowatt at a time

What happened when Arandell reduced its energy consumption by 1.78 million kWh? According to Orion, 1,335 tons of CO₂, 364 tons of carbon, five tons of sulfur dioxide

and 11 tons of nitrogen oxides—all greenhouse gases known to cause acid rain—will not go into the atmosphere. According to the U.S. Environmental Protection Agency,

removing these pollutants is the environmental equivalent of preserving a 327-acre forest or of removing 252 cars from the road; and it’s the conservation equivalent of saving 161,818 gallons of gasoline or 3,853 barrels of fuel oil per year.

addition, the printer was so pleased with the results that it hired Orion to overhaul all of its lighting.

Orion's larger proposal for retrofitting the entire production facility showed a return on investment of one to two years. Energy savings were guaranteed under terms of a performance contract. Arandell's yearly electrical savings came to \$97,000. Treis explains, "Yes, we were skeptical; we've done lighting projects in the past, and they didn't work out very well. But with the guarantee, it was an easy decision." The \$97,000 savings stems from a 1.78 million kilowatt-hour (kWh) per year usage reduction. Additionally, the energy savings qualified the project for a \$30,000 energy efficiency grant from the state of Wisconsin, which offset installation costs.

Treis adds, "As Orion had predicted, Arandell experienced a 50 percent reduction in lighting power costs and 60 percent gain in work area lighting with the new fixtures."

The new fixtures have provided better light distribution and longer lamp life. Also, the color rendering improved; it is now quite close to that of Arandell's sample rooms instead of the various reddish hues of sodium-vapor light that Arandell employees had previously encountered. As part of its contract with Orion, in

three years Arandell will receive all new lamps for its fixtures at no additional cost, saving thousands of dollars in the cost of bulbs alone.

Out with the old


In the changeover, Arandell installed 869 Orion Illuminator fixtures. Treis says although the particular six-tube fluorescent was intended to be a one-for-one replacement, it gave off so much light that the same number was not required. It took roughly three weeks for a three- to four-man crew to install the fixtures without interrupting production. Orion workers were able to work around lunches and weekends when different equipment was down.

How have the employees reacted to the change? "It's gone over very, very well," Treis says. "Initially there was some skepticism because if you look up, it gives the illusion there isn't much light. With the sodiums, there used to be a lot of wasted light; now all of the light is pushed downward."

This little Illuminator of mine

The Illuminator fixture uses highly reflective material that has been engineered to "harvest" light from all sides of a fluorescent tube—much of which would be lost in a conventional fixture—and direct it downward, where it is usable.

The fixture is designed for T8 fluorescent tubes, which require electronic ballasts. As a result, Orion fixtures turn on and off instantly, operate quietly and provide full-spectrum fluorescent light, a much more natural light than older fluorescent types and more popular with employees in a typical workplace.

The Illuminator has helped Orion Energy Services, Ltd. win several awards, including the 2004 Wisconsin Partners for Clean Air Award from the Wisconsin Department of Natural Resources and the 2002 Wisconsin Manufacturer of the Year Grand Award in the emerging growth category from the Wisconsin Manufacturers and Commerce Assn. Additionally, Orion president Neal Verfuert won the 2004 Ernst & Young Wisconsin manufacturing Entrepreneur Of The Year award. 

About Orion

Founded in 1996, Orion Energy Services (Plymouth, WI) is an energy services company that manufactures and markets energy-efficient lighting solutions for manufacturing, printing, school, gymnasium, warehousing, big-box retail, commercial and agricultural markets. See www.oriones.com.

Reprinted with permission from the April 2005 issue of *American Printer*® (www.americanprinter.com)
Copyright 2005, PRIMEDIA Business Magazines & Media Inc. All rights reserved.