

GE Appliance Park Front Office Relamping Project

GE Appliance Park

Louisville, Kentucky

In order to address the problem of old, inefficient and often insufficient lighting for the front office areas of GE's Appliance Park facility, in 2010 the company embarked on a major program to upgrade the lighting in these work spaces.

Offices and labs are situated in the eastern portion of the six main manufacturing plants with an additional, separate building for its executive offices. Altogether, the total square footage covered by this program to upgrade the lighting was 851,620 square feet. The existing lighting in these areas was previously provided by old and inefficient T12 fluorescent lamps. The retrofit included replacement of the T12 lamps, both 4 foot and 8 foot sizes, with newer, energy efficient T8 lamps. This also necessitated upgrading of the old fixtures themselves by converting from magnetic ballasts to more energy efficient electronic ballasts. The various light fixtures house on average between two to four lamps and a total of 14,000 fixtures throughout the facility were switched over. As an added measure to modernize the system itself, motion sensor light switches were installed in order to reduce energy waste which had previously resulted from leaving the lights on in unoccupied rooms. There has also been the added benefit to worker productivity as a result of the improved indoor environment and work space lighting.

This upgrade to the energy management system has resulted in an annual reduction of 4,325,963 KWHs (kilowatt-hours) of electrical energy usage for the Park. The associated annual cost savings is \$224,950.

The total cost for the approximately four month retrofit installation was \$900,000, partially funded through the American Recovery and Reinvestment Act. Therefore the cost for the project will be recouped within a 4 year period through energy savings.

Most importantly, in keeping with its commitment to being a responsible steward of the environment, by making these improvements to the lighting system, GE has prevented a substantial amount of greenhouse gases and pollutants from being added to the atmosphere. Namely:

- 3,022 metric tons of GHG (in CO₂ equivalents) per year.
- 12 metric tons of sulfur dioxide (SO₂) per year.

- 6 metric tons of Nitrogen Dioxide (NO₂) per year.

This reduction has the equivalent effect of planting 301,310 new trees per year or removing 579 automobiles from the road each year.

By continually improving its facilities and processes, through this and other upgrade projects, GE is better able to fulfill its commitment to green manufacturing practices, while at the same time providing increasingly affordable and high quality products to the consumer.



The above picture is an example of light fixtures that were installed in a lab area. Each fixture has its own motion sensor on the edge of fixture to help save the most electricity.



The above picture shows a typical office or conference room area with a motion sensor.