



UMass Industrial Assessment Center Sheds Light on Off-Shift Energy Use at Philips Lightolier

In June 2015, the Industrial Assessment Center (IAC) at the University of Massachusetts Amherst conducted an assessment of the Philips Lightolier facility in Fall River, Massachusetts. The facility had ongoing efforts to make operations more sustainable by reducing use of energy, water and toxic chemicals in its manufacturing of recessed lighting products. Energy consumption had already been substantially reduced, but it was higher than expected at night. Facility Manager Ron Westgate brought the IAC in to investigate this issue and explore additional savings opportunities.

IACs are located in 29 universities around the country and funded by the U.S. Department of Energy's Advanced Manufacturing Office. They provide assessments of energy and resource use at no cost for small to mid-sized manufacturing and water/wastewater treatment facilities. The New England region is served by the IAC at the University of Massachusetts Amherst, based in the Mechanical and Industrial Engineering Department's Center for Energy Efficiency and Renewable Energy.

The assessment was conducted by Professor Beka Kosanovic, Director of the UMass IAC, and two mechanical engineering graduate students.

The team analyzed the facility's utility bills and then visited the site to meet with facility staff, learn about the manufacturing process and site operations, and review major energy consuming equipment in the facility. They installed 27 data loggers to track operation and energy use of key equipment over a weeklong period.

The loggers showed that air compressors were operating unnecessarily outside of production hours, contributing to the high nighttime energy consumption. The facility had a compressor management tool but it was not operating properly, and simply reprogramming the tool to turn compressors off when not needed would save \$24,000 a year. This was one of 12 recommendations detailed in the report provided by the IAC the month after the site visit. Some had little to no implementation cost, such as reprogramming existing control systems, and the company received utility incentives toward the cost of others. In total, Philips achieved annual savings of \$102,000 by implementing seven of the recommendations, and the energy savings paid for the company's investment in only 4 months.

**PHILIPS
LIGHTOLIER**

Benefits:

- Electricity savings: 650 MWh/year
- Natural gas savings: 120 MMBtu/year
- Emissions reductions: 400 tons CO₂, 480 pounds NO_x, 440 pounds SO₂/year

Annual cost savings:

- \$102,000

Simple payback period, after utility incentives:

- 4 months

They did a great job. The detail was amazing. Anyone who can get help from them should. Another set of eyes is always good.

- Ron Westgate, Facility Manager, Philips Lightolier

To learn more about the Industrial Assessment Center and find out if your facility is eligible for a free assessment, visit www.ceere.org/iac or contact IAC Director Beka Kosanovic at 413-545-0684 or kosanovic@umass.edu