

Tennessee Pollution Prevention Partnership Success Story



Bridgestone Firestone NT, LLC - Warren
725 Bridgestone Drive
Morrison, Tennessee 37257
931-668-5600
www.bridgestone-firestone.com



Energy Savings with T5 Fluorescent Lamps

The Member

Bridgestone Firestone North American Tire, LLC, Warren County (BFNT Warren) plant began manufacturing truck and bus tires in 1990. The plant employs approximately 1025 team members involved in producing thousands of truck and bus tires each day. BFNT company-wide has been dedicated to environmental excellence and continuous improvement as demonstrated by all of our North American tire plants achieving ISO 14001 certification by the year 2000. BFNT Warren achieved TP3 Performer on June 13, 2005 and is also a Charter Member of the EPA National Environmental Performance Track. We continue to look for opportunities to eliminate and reduce waste, save natural resources, and prevent pollution.

The Story

A major environmental impact from tire manufacture is energy use and using energy efficient motors, aggressive preventative maintenance and annual energy audits have reduced manufacturing energy usage significantly. With energy costs rising and no end in sight, BFNT Warren had to look outside the manufacturing "box" and review facility energy usage. After reviewing the technical details of more energy efficient metal halide light fixtures, T8 light fixtures and T5 light fixtures, the T5 light fixture with High Output (HO) lamps and electronic ballast was chosen to replace the metal halide fixtures with 400 watt lamps. After finding the T5 lamps operate well in the manufacturing environment, we looked for opportunities to standardize our light fixtures. We use all forms of lamps; incandescent, metal halide, and many forms of fluorescent lighting mostly T12. We now use the HO T5 lamps at the inspection stands generating more lumens and using the same energy as the replaced HO T12 lamps. Then we experimented

with the T5 light fixture containing 2 of the HO T5 lamps and found we could replace two of the T12 light fixtures with one T5 light fixture. The lighting quality and brightness was found to be the same.

The Success

BFNT Warren is committed to continuous improvement in reducing our energy footprint. By replacing metal halide and T12 fluorescent light fixtures with T5 fluorescent light fixtures we have:

- Reduced energy usage by 49% for each 400 watt metal halide light fixture replaced with a T5 light fixture
- Reduced mercury content by 89% for each 400 watt metal halide light fixture replaced with a T5 light fixture
- Reduced energy usage by 66% for each T5 light fixture replacing two T12 light fixtures
- Reduced mercury content by 84% for each T5 light fixture replacing two T12 light fixtures.

The Pollution Prevented

In 2007, BFNT Warren replaced 2,877 (459 watt) metal halide light fixtures with (234 watt) T5 light fixtures reducing electricity usage 5.7 MMKWH per year. Replacing 1,264 T12 light fixtures with 632 T5 light fixtures reduces electricity usage 1.3 MMKWH per year. This totals to 7.0 MMKWH per year reduced electricity usage.

Replacing the 2,877 metal halide lamps with the T5 fixtures reduced the mercury in the lamps from 0.3 pound to 0.04 pounds. Replacing 1,264 T12 light fixtures with 632 T5 light fixtures reduced the mercury in lamps from 0.03 pounds to 0.004 pounds.

May 2008

TENNESSEE POLLUTION PREVENTION PARTNERSHIP
1-800-734-3619 www.state.tn.us/environment/oea/tp3