



Lighting to Energy

Linemen with Thunder Bay Hydro retrofit traffic lights with LED bulb modules in a program that will see the conversion of over 100 intersections in the City. (Photo courtesy of Thunder Bay Hydro)

LED Traffic Light Conversions

Many electricity distributors have opted in recent years to convert traffic lights in their service territories to Light Emitting Diode (LED) bulbs from the traditional incandescent bulbs. As one would expect, retrofitting LED conversion programs of this type are included in a number of approved LDC Conservation and Demand Management plans.

Thunder Bay Hydro has partnered with the City's Traffic and Street Lighting Division to convert traffic lights from the traditional 150-watt incandescent bulbs to Light Emitting Diode (LED) lights.

The LED Traffic Light Conversion Program, when completed, will convert over 100 intersections to LED traffic lights in the City of Thunder Bay. In the program's first year in 2005, 35 intersections were converted.

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The 2005 LED conversion of the first 35 intersections is expected to provide 469,415 kWh in savings per year and over a lifetime of use, savings of 3,755,319 kWh.

At the intersection of Balmoral Street and Harbour Expressway in Thunder Bay, specific statistics have been gathered to show the savings LED traffic lights have afforded. The previous consumption of electricity for the intersection traffic lights was 1,721 kWh/month. With LED lighting, the retrofitted consumption has dropped to 224 kWh per month. What used to cost \$200 on the electricity bill, is now costing the City \$40. It's expected that the conversion of this one intersection will yield \$15,000 in savings in electricity costs to the municipality over the life of the bulb. The cost of converting an intersection of this type is approximately \$5,000 to \$6,000. The math speaks for itself - energy conservation and cost savings are working hand-in-hand to the benefit of the local municipality.

In neighbouring Fort Frances, the Fort Frances Power Corporation (FFPC) will replace each of their 14 intersections with traffic lights and pedestrian crossing signals by the end of 2006. They ran a pilot project in the fall of 2005. As a result of the success of that pilot they are

moving ahead with a full conversion in the Town that began this summer.

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"The advantages of using LED traffic lights is 3-fold," says Jim Kibiuk, President and CEO of FFPC. "First, you have reduced electricity consumption and cost savings to the municipality, our shareholder. Second, you have reduced maintenance costs for the distributor. And thirdly, because the lights are brighter, there's improved public safety for everyone."

the Way . . . Efficiency with LED Lights

The Popularity of Seasonal LED Lighting

LED seasonal light string exchanges have proven to be a very popular program across the province. The light exchanges allow customers to bring in older style Christmas light strings that are replaced with LED strings courtesy of the local distributor and are often held in the weeks preceding the December holiday season.

Greater Sudbury Utilities held a holiday LED light exchange as part of its energy

conservation forum in early December 2005. The forum was held in partnership with Minister Bartolucci, MPP. While customers waited in line to exchange their strings of lights, they could also learn of other conservation and demand management initiatives taking place at the utility - including, thermal storage heating, lighting and energy conservation. A string of 24 feet of regular outdoor lights could be exchanged for an equivalent string of 70 LED lights that use 80 to 90 percent less energy.

In 2005, the distributor also replaced a section of Christmas lights at the Greater Sudbury's Community Festival of Lights with LED lights.

A similar program through Niagara-on-the-Lake Hydro took place in the Old Town decorative Christmas light conversion. 367 strings of incandescent decorative Christmas lights in the downtown core were replaced with 350 LED efficient light strings. Overall savings of \$68,400 through the holiday season was greatly appreciated by the downtown merchants.

Similar to the Old Town LED conversion, the utility also replaced incandescent lights with 30 LED light strings throughout the municipality. This program resulted in savings of \$5,300 for the municipality.

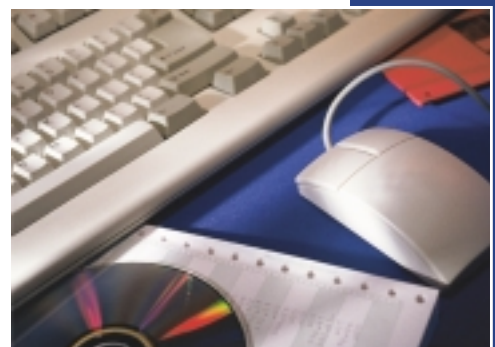
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