

Welland Hydro-Electric Partners with City in LED Traffic Signal & Streetlighting Conversion Initiatives

Welland Hydro-Electric System Corporation knows the value of partnering with municipal government to achieve common conservation goals and tangible savings for taxpayers.

In 2006, the City of Welland and Welland Hydro came together to initiate the replacement of incandescent traffic and pedestrian lights at city intersections with light-emitting diode (LED) lights. The joint effort has helped both parties appreciate more fully the value and benefits of LED lights - not only for the energy and load savings, but the fact that relamping will need to occur much less frequently than with incandescent traffic lighting. The LED bulb has a life cycle that is eight times longer lasting than its incandescent predecessor.

In addition, high efficiency LED light bulbs are directional which allows light to be emitted where it is aimed, unlike traditional lighting technologies. LED lights run cool, are safer, and are less fragile than their hot burning incandescent cousins.

The LED relamping of traffic lights at four intersections that was completed in 2006 will realize a lifecycle savings of close to 650,000 kWh and considerable savings for the city on its electricity bill. The retrofitting of six additional city traffic signal intersections has since been completed in 2007.

Riding on the heels of the success of the LED traffic light conversion project, a new pilot is

now underway in which two 'test' LED streetlights have been installed by Welland Hydro on one of the city's residential streets. The objective of the pilot is to determine a LED product best suited to the application and expand the program to illuminate the entire street.

Welland City Council has recently approved the program which will see the replacement of approximately 40 High Pressure Sodium, 175 watt street lights with 40 LED, 90 watt

performance based on a larger and more measurable scale. If the pilot is successful then streetlights may be converted to LDC technology city-wide over a 3 to 5 year period, with a possible savings of \$185,000 per year from the current annual street lighting costs of over \$350,000.

The City's partnership with Welland Hydro is helping local government achieve environmental objectives set out in its Strategic Plan. The

plan cites three overarching goals to ensure policies, plans, and projects embrace the protection and enhancement of the environment: commitment to conserving energy through LEED and alternative energy sources; development and promotion of 'green' possibilities and policies; and, ensuring that city services limit greenhouse gas emissions and improve air quality.

Joint partnerships between municipal governments and distribution companies are proving to be an effective means of successfully piloting conservation initiatives, such as LED light conversions, in communities across the province. For Welland Hydro

and the City of Welland, reaping the rewards of this cooperative venture ultimately benefits everyone - the utility, the city, and the citizens of Welland.

Welland Hydro-Electric System Corporation services the City of Welland, a territory encompassing 86 square kilometres and 21,148 customers.



streetlights on the pilot street. Most interestingly, the City of Welland is the first municipality in North America to implement LED streetlighting on a municipal roadway (other LED streetlighting projects have been completed, but on private roadways).

Resulting data from the project should enable a more accurate review of the technology and