Tackling the LED Streetlight Challenge

By Joe Walsh

Converting an entire streetlight system to LED fixtures is a once-in-a-career project. Whether a system has 300 fixtures or 3,000, full-scale conversion is a project that presents a unique set of challenges that will be undertaken in full view of the community. With the right leadership and technology, a successful LED conversion can deliver to the community substantial energy and cost savings, as well as significantly improved light quality.

After years of technological advancement, there are abundant LED roadway lighting choices that meet the two critical performance criteria when evaluating project feasibility: illumination and economics. In addition, state-of-the-art control systems enhance savings by enabling the remote activation and dimming of the streetlights and by automating the collection of maintenance data, eliminating the need for drive-by inspections.

But LED streetlight conversion projects require more than just a one-for-one replacement of existing street lighting infrastructure. Audits, photometric analysis and system design are complex processes that require expertise. Fixture selection must extend beyond reduction of baseline energy usage to optimize service life and optical performance. Installation can be challenging, as crews encounter unknown and unpredictable field and mounting conditions.

It may be unrealistic for the busy personnel of small to mid-size public power electric departments to learn all there is to know to about important LED conversion issues. Manufacturers of LED streetlights and controls systems may offer to provide consulting services, but they require the purchase of their proprietary fixtures, and they provide no assistance in installing or integrating the fixtures and controls.

To provide maximum flexibility to public power systems, PowerSecure worked with the staff of Hometown Connections to design a unique LED streetlight conversion option that is non-proprietary and turnkey. PowerSecure International, Inc. is a leading provider of utility and energy technologies to electric utilities, and their industrial, institutional and commercial customers. Hometown Connections is the utility services subsidiary of the American Public Power Association.

PowerSecure and Hometown Connections have launched a vendor-neutral program integrating engineering and design services with project construction and installation. PowerSecure will help APPA member utilities choose among the high quality products from the top manufacturers in the global LED market. Whether a utility purchases LED fixtures from PowerSecure or from another manufacturer, PowerSecure will provide full lifecycle turnkey services: design and engineering, construction, labor, commissioning, control systems, and operations & maintenance services. There may be lease or finance options available that reduce the financial contribution from the city or electric department. ■

Joe Walsh is Director of Energy Efficiency Services at PowerSecure, Inc. In affiliation with Hometown Connections, PowerSecure provides LED outdoor lighting, distributed generation, and solar products and services to public power systems.

Turnkey LED Streetlight Conversion

PowerSecure is providing a one-stop solution for municipal utilities that may be financed through energy savings.

- Provides a free, no obligation audit of infrastructure and develops a preliminary scope, cost and savings analysis.
- Serves as an independent solutions provider, with a catalog of turnkey options such as lamps, ballasts, and controls from all the leading manufacturers to ensure public power systems may access cutting-edge technology with a strong record of performance.
- Conducts an in-depth analysis of photometrics, run hours and dimming schedules.
- Works closely with all city departments to ensure compliance, safety and affordability.
- Offers best of breed technology and warranties from a preselected catalogue of fixture and controls manufacturers.
- Installs and programs controls systems, commissioned during installation, to ensure optimal lighting and savings levels.
- Delivers utility-grade equipment and trained personnel available only from a well-established utility contractor.
- Provides O&M services, communication and training to keep utility staff and end use customers fully informed.

Six Questions to Ask First

1. What is the right product and manufacturer for our community?
2. How do we ensure that the new roadway light levels are safe for travel?
3. How do we capture the greatest total savings?
4. What will the revenue impact be and how do we develop a plan to reassess fees where necessary?
5. Do we have the right resources available to design and install a project?
6. How do we evaluate the project's total economic impact and are finance options available?