

Cleveland Public Power Bureau of Street Lighting

City-wide LED Street Light and Adaptive Control Pilot

Executive Summary

As the largest municipally owned electric utility in the State of Ohio, Cleveland Public Power's (CPP) Street Light Bureau currently owns and maintains approximately 67,000 street lights throughout the City of Cleveland. Cleveland Public Power receives over 15,000 streetlight complaints a year. Responding to each complaint is labor intensive and often requires repeat visits to the same location. The high number of streetlight complaints required new solutions to improve response time to public concerns and overall quality of services which would require new technologies and adaptive controls.

In an effort to assess the effectiveness of LEDs and adaptive controls for future rollout, the city conducted a two-year pilot program to replace 1,000 street lights and install adaptive wireless controls. CIMCON Lighting was one of two adaptive controls vendors selected for the pilot. CIMCON's iSLC-3100-7P controller was tested for its ease of installation, ON/OFF/DIM scheduling capabilities, GPS functionality, scalability, utility-grade energy metering, web-based access and, for local control, iOS applications. Compared to the competition, the CIMCON application was installed in 1/10th of the time at 1/5th of the cost.

Situational Analysis

As the largest municipally owned electric utility in the State of Ohio, Cleveland Power and Light's (CPP) Street Light Bureau manages approximately 67,000 street lights; and receives over 15,000 complaints per year. Given the extensive time and labor costs associated with managing complaints, the need to improve response times to address public safety concerns and the need to implement new technologies to improve energy efficiencies, CPP undertook a pilot program to test LED fixtures and adaptive wireless controls.

Pilot Program Project Scope

The pilot program project scope included installation and testing of 1,000 LED street lights from 15 vendors and adaptive controls from two vendors, including CIMCON Lighting. LED street lights were placed along two main arteries within the city's East and West wards, and downtown in the Public Square and Warehouse District. CIMCON Lighting's adaptive controls were placed in the Public Square and Warehouse District.

Implementation

Working with our installation partner, Green Rock Lighting, CIMCON installed its iSLC-3100-7P intelligent wireless controllers throughout sections of the downtown area. Installation took two weeks and testing began in August 2014 and continued through the summer of 2015. Key features of CIMCON's controls that were tested included:

- Ease of installation;
- ON/OFF/DIM scheduling capabilities; including "mixed mode" and photocell override;
- GPS;
- Scalability;
- Utility-grade Energy Metering;
- Web-based remote access; and,
- Local control through CIMCON's iOS app



Client:

Cleveland Public Power:
Bureau of Street Lighting

Application/Environment:

Pilot program testing 15 LED vendors and two wireless controls vendors along two main arteries within the city's East and West wards, and downtown Public Square and Warehouse district.

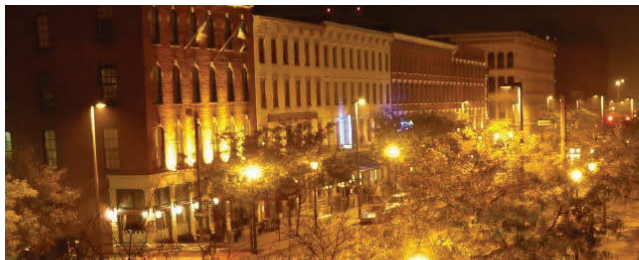
Project Scope:

150 CIMCON Lighting iSLC-3100-7P
NEMA compliant controllers.

Results

After thorough evaluation and testing, CPP reported that there were no performance issues with CIMCON's controls. CIMCON's controllers delivered the following results:

- Live and on-demand updates of status;
- Dimming capability within status range;
- Individual cumulative KWh consumption, and real-time KWh use;
- Remote control ON/OFF/DIM via real-time controlling and pre-setting; and,
- GPS location, including full address, plus Google Earth imaging



Next Steps

The City is currently completing its audit of city-wide street light assets prior to finalizing its LED selection. LED fixtures will be installed with CIMCON Lighting's wireless controls and management software.

About Cleveland Public Power

Cleveland Public Power is the largest municipally owned electric utility in the State of Ohio and one of the largest in the United States. Its electrical footprint extends throughout the City of Cleveland, providing service to the nearly 80,000 residential, commercial and industrial customers.

Its system features state-of-the-art technology throughout the network with its automated switchgear and relays located at its substations, to the System Controls and Data Acquisition System (SCADA) that provides real-time information through telemetry. System control is highly automated with voltage regulation through Capacitor Banks and Load Tap Changers.

Most of its power and energy requirements are obtained through short and long-term contracts with various regional utilities and other power suppliers through three 138 kV interconnections to the regional grid. The balance is made up through three combustion turbine generating units and ten diesel generators located throughout the network.

About CIMCON Lighting

With over 25 years of innovation and experience in outdoor wireless applications, CIMCON Lighting is the world's leading provider of scalable, intelligent wireless outdoor lighting management solutions for traditional, LED and solar-based street lights. Focused on offering solutions that provide the lowest **"Lifecycle Cost of Ownership,"** CIMCON pioneered the concept of **"Just in Time Lighting™"** to ensure that the right amount of lighting is provided when and where it is needed. CIMCON's **"Just in Time Lighting™"** reduces energy, maintenance, and repair costs while improving total ROI. CIMCON's lighting management solutions are appropriate for roadways, parking lots and parking garages, corporate and university campuses and a variety of industrial applications.

For more information, please visit www.cimconlighting.com.

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