

TLACS-A for James Peters Medical Center

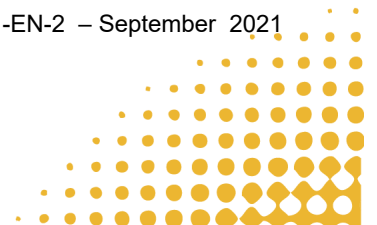
Case Study



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The situation

James J. Peters VA Medical Center is a US Department of Veterans Affairs' hospital complex located on West Kingbridge Road, in Bronx, NY. Founded in 1922, the hospital is the headquarters of the Veterans Integrated Service Networks New York/New Jersey VA Health Care Network.

The Medical Center outdoor parking has 64 luminaires - 33 have a surveillance camera, including built-in motion detectors.



The Medical Center and its parking lot

Issues to be solved

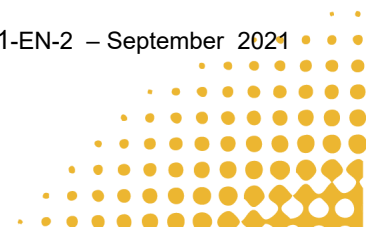
The Medical Center outdoor parking lot needed to be safer for employees and visitors, and the lighting system improvement was part of this solution.

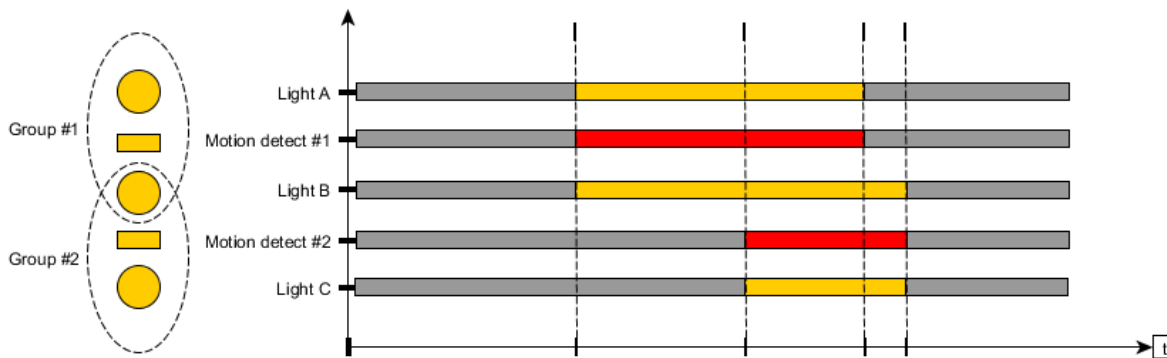
Reducing lighting energy costs was also a priority for this project to come to a reality.

Nyx Hemera Technologies' solution

To fulfill the site safety and security requirements, the Medical Center authorities decided to retrofit HPS high-pressure sodium outdoor lamps with new LED luminaires, increase lighting level when needed, and remotely monitor critical electrical parameters. The implementation of LED technology also allows dimming capabilities, thus introducing advanced Lighting Control Systems. Paired with the lighting luminaire manufacturer, Nyx Hemera Technologies proposed the TLACS-A Lighting Control Solution based on Power Line Communication technology to the medical center infrastructure manager.

Nyx Hemera's Power Line Communication technology uses methods combining time and frequency domain modulation techniques to achieve ultra-robust power line communication. Power line communication does not require installing additional control wires for control and monitoring. Instead, it uses existing powerline cables to monitor the luminaires electrical parameters and control them in a timely manner when conditions change. As a result, power line communication means significant savings on the installation time, wires and connectors, and lighting system maintenance. People in charge of site maintenance use a remote web interface through a secure Ethernet or cellular link when they need remote monitoring. Nyx Hemera's president, Pierre Longtin, says, "We wanted to offer a system that would make our customer increase flexibility and security of luminaire control while decreasing energy costs"





Lights turn on promptly and follow movement in the parking lot

The result

This project ended up retrofitting HPS Sodium Lamps to LED luminaires with 1 Nyx Hemera's built-in LPC 480 Local Product Controller per luminaire and featuring one channel relay of 4 amps, 120-480 VAC. Moreover, IP cameras with motion sensors were installed at the top of several lighting poles.

The Nyx Hemera main controller calculates the needed luminaires' lighting level at night based on a configurable dimming schedule and motion detection. The surveillance cameras transmit the motion detection signal to the associated LPC I/O ports. During daytime, dimming is inoperative because of the luminaire integrated photocell action.

At night, the Nyx Hemera Area Lighting Control System (TLACS-A) sets the luminaires to the LOW dimming level. When a movement is detected, it switches the associated luminaires to the HIGH dimming level. The luminaires turn back to the LOW level when no more movement is detected, following a configurable delay.



Luminaires and characteristics

- Retrofit from HPS Sodium Lamps to LED
- 64 poles with 1 to 4 luminaires
- 33 poles with motion detection

72 luminaires converted from sodium to LEDs, coupled to the TLACS-A technology brought these benefits:

- Using LEDs means significantly lower power consumption.
- Increased security with appropriate lighting triggered by motion sensors.
- No unnecessary light pollution.

