



## CASE STUDY

### Centralized Dimming Control System

USPS MORGAN P&D CENTER (MANHATTAN - NY)

#### CUSTOMER REQUIREMENTS

Located in the center of Manhattan, the Morgan P&D Center is US Postal Service's biggest distribution center on the East Coast. It is a two building complex with more than 1.75 million square feet of open working space area.

In order to improve the energy efficiency and to increase employees' comfort, US Postal Service has decided to launch a major lighting retrofit project for the entire complex. In addition to these two major objectives, US Postal Service wanted to be able to have full control of the lighting level within the facility.

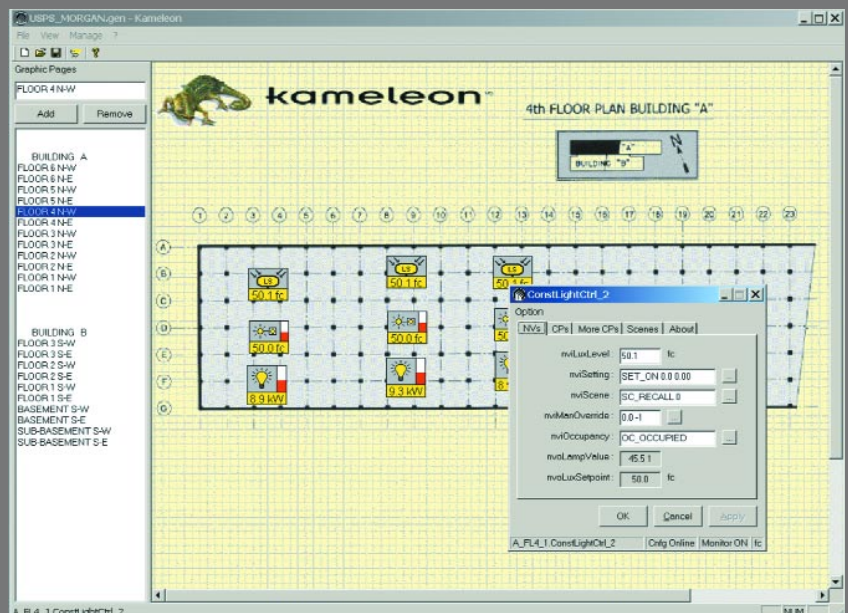
For security reasons, and because the Morgan Center is in operation 24/7 all year long, the energy savings could not be obtained by performing standard On/Off sequences. The selected strategy was to implement a lighting system with dimming capabilities. With such a system, savings could be achieved by dimming the fixtures over unoccupied areas according to pre-defined schedules and by performing daylight harvesting on the perimeter areas equipped with windows. The most appropriate lighting equipment to perform such a task was to be a combination of high bay HID fixtures equipped with electronic HID dimming ballast.

The key consideration for the consultants on this project was to control the dimming of the 3608 HID fixtures/HID dimming ballast distributed over the complex's 10 floors as requested by US Postal Service.

#### GENTEC'S SOLUTION

With its KAMELEON K8 Series, developed using open LonWorks technology from Echelon, Gentec was able to provide a cost effective centralized control system with dimming and energy saving capabilities.

The installed system consist of a LON based network of KC-841 Dimming Controllers, Dual Mode Occupancy and Ambient Light Sensors and one KC-811 Digital Time Clock. A Kameleon software was used to configure the entire system. The area to be controlled was divided in 46 different zones each containing up to 120 HID fixtures and one dual mode sensor.



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The KC-841 Dimming Controller, which has the capability of controlling up to 8 zones, has two major functions. The first one is to act as a signal converter between the dual mode sensor and the electronic dimming ballasts within each zone. The second one is to send a dimming command to the ballast according to pre-set scenes at a specific time of day. All dimming operations are performed with respect to specific parameters such as levels of foot-candle and fade/increase period.

With its Echelon Neuron microprocessors, built-in scheduler and astronomical clock, the K8 Dimming System is a fully autonomous system that doesn't require any human intervention or live computer connection for its day-to-day operations. For the USPS project, two front-end computers were installed. One on site and the second one located in a remote building in the city. The connection between the network and the remote computer is secured through a dedicated telephone line. Both computers, equipped with the Kameleon Software, are used to perform monitoring and re-configuring tasks. Furthermore, through the graphical interface of the software, the owner has an instant reading of the actual light level (FC) and the saved energy (kW) in each zone.

## CUSTOMER BENEFITS

- REDUCED COSTS OF INSTALLATION AND CONFIGURATION
- REDUCTION IN POWER CONSUMPTION AND ENERGY DEMAND THAT WILL RESULT IN AN ESTIMATED PAY BACK PERIOD OF LESS THEN A YEAR.
- INCREASE LEVEL OF COMFORT FOR EMPLOYEES
- EASY MONITORING AND RECONFIGURATION OF THE LIGHTING NETWORK PARAMETERS

