

gas station case study: Flying K Gas & Grocery



Main Achievement/s:

- Reduced lamp power
- Increased light levels
- Achieved significant energy savings

Background

The roots of Wilson Oil, Inc., dba (doing business as) Wilcox & Flegel Fuel Oil Company, date back to 1925 when Jack Manning offered the first “Sudden Service” in the heating oil business with a 55-gallon barrel strapped to the back of his truck.

Currently Wilcox & Flegel own and operate 13 convenience stores with gas, two truck stops with gas and stores, the Indy Way Diner restaurant, 30 cardlocks, 49 properties and 100 vehicles. They market retail gasoline under the brands of Chevron, Texaco, Shell, 76, Valero, Flying K, and US Ethanol, and cardlocks branded CFN and Pacific Pride.

Original Situation

The Flying K Gas & Grocery in Kelso was to be the pilot site for other gas station canopy retrofit projects. Flying K consisted of:

- 24 320w metal halide lamps
- Operating 24/7

The two main challenges of a gas station lighting retrofit project are:

- Maintaining the lighting “look and feel” of the canopy
- Costs involved in changing the fixtures



Snapshot

Energy Savings
55%

Lamp Power

Reduced from 320w to 250w
Further reduced to 134w due to 50% dimming for 12 hrs a day

Annual kWh Saved

58,101

Annual CO² Saved

41.7 metric tons

Simple Payback Period

0.99 years

Total Annual Saving

\$2,905

The Result

- Achieved energy savings of 55%
- New installation consisted of 24 250w electronic ballasts
- Reduced lamp power while maintaining lighting optics and performance
- Lights dimmed by 50% for 6 hours
- No fixtures were replaced - Metrolight's EcoBOX was used, enabling the reuse of existing fixture bodies without damaging the envelope and maintaining photometric design
- Flexible lighting system - with a simple 0-10v timer, the customer is able to control the system, dimming the ballast from 100 to 50% based on their specific requirements.



Before Metrolight 320w magnetic HID ballasts



After Metrolight 250w SmartHID™ electronic ballasts - maintained lighting levels

“Canopy lighting plays a critical role in marketing gas stations. It serves as a beacon to attract travelers. As such, it is no surprise that gas station owners are wary of changes to the lighting design. Metrolight’s technology enables owners to maintain the current lighting design while reducing energy consumption by an average of 50%.”

Connections for Conservation

Features	Before Installation	After Installation	Savings
Fixture Power Consumption	357 Watts	269 Watts (Reduced to 134 when dimmed)	88 Watts
Operating Hours/Days	24/365	24/365	6 hours dimming
Annual Lighting-Related Energy Cost	\$3,744	\$840	\$2,904
Total Annual Savings	\$2,904		
Simple Payback/ROI	0.99 Years		

Integration Partner

Connections for Conservation

CONNECTIONS FOR CONSERVATION

Connections for Conservation is a certified lighting management consultant and specializes in energy conservation. We work with Utility Companies, Manufacturers and Contractors in the designing, distribution and promotion of energy efficient technology. We are a member of the Northwest Trade Ally Network and serve over 325 counties in WA, OR, ID, MT and CA. For more information please visit www.connectionsforconservation.net

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