

Customer Success Story: Oil Refinery

Markets Served
Oil and Gas



Eaton LED lighting solutions drive energy and maintenance savings for oil refinery

Location:

Northeast U.S.

Segment:

Oil and gas

Challenge:

Replace aging, inefficient high-pressure sodium and incandescent lighting to address increasing energy and maintenance costs

Solution:

Comprehensive Eaton LED lighting solution for enhanced light quality and safety, reduced energy consumption and reliable performance

Results:

Reduced annual energy usage of \$34,668 and projected maintenance savings of \$766,647 over a 6-10 year period; with improved light quality to support personnel safety

Background

Refineries are commonly faced with the growing challenge of keeping up with uptime, budget and regulatory requirements despite aging equipment. Operating around the clock in harsh environments also demands the utmost in visibility and illumination to support worker safety.

With today's modern light-emitting diode (LED) technology delivering increased energy efficiency, lowered maintenance costs and improved light quality, lighting upgrades present a great opportunity for refineries to cut costs while bettering work environments.

Challenge

When a major U.S. refinery was looking to modernize its lighting systems to provide a better environment for personnel, it sought a solution that could also reduce ongoing maintenance, replacement and energy costs.

The increasing costs incurred from the aging high-pressure sodium (HPS) and incandescent lighting technology began to compound, and the refinery knew it needed to collaborate with an industrial lighting expert to develop a solution that would continue to deliver benefits well into the future.

Solution

Following an extensive inspection by lighting experts in Eaton's Crouse-Hinds business, the refinery replaced legacy HPS and incandescent fixtures with Champ® VMV Series and Vaporgard™ Series explosion proof LED luminaires.

Exceeding the refinery's expectations as a HPS replacement for overall light quality and durability, the Champ VMV Series LED fixtures provided full-spectrum lighting and custom distribution at a fraction of the energy consumption.

Consuming less than 50W, the Champ VMV3L delivers equivalent lighting levels of a traditional 100W lamp, offering a lifetime energy savings upwards of 77 percent compared to traditional HPS luminaires. The robust design provides protection from flammable vapors, gases, corrosive chemicals and liquids to withstand the harshest of

environments and has a lifespan more than six times that of typical luminaires.

The Vaporgard LED explosion proof luminaires were implemented to provide the refinery with uniform, crisp light in low-mounted applications. An ideal replacement for traditional 100-200W incandescent applications, the luminaires comply with T5 temperature codes in Class 1, Div. 2 locations to provide the safety and performance required in downstream applications. The 22W LED system can also help save up to 85 percent in energy costs, and provides a rated life of up to 50,000 hours for nearly 10 years of maintenance-free lighting.

Results

By implementing the Eaton LED lighting technology, the refinery was able to reduce its annual energy usage by \$34,668 while also decreasing the total maintenance costs by \$766,647 over a 6-10 year period.

The complete lighting solution is also designed in compliance with applicable industry standards, providing the highest quality, safety and optical performance for hazardous areas.

To learn more, visit www.eaton.com/oilandgas.

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