



## Vaporgard™ LED's rugged durability eliminates maintenance and downtime

**Location:**  
Ely, Nevada

**Segment:**  
Mining

**Challenge:**  
Reduce maintenance for lamp replacement on shovels

**Solution:**  
Eaton's Crouse-Hinds Vaporgard™ Series LED Luminaires V2LCHT2/DC and V2LCHF2/DC

**Results:**  
Saved over \$1M in downtime.

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*"We have not done any maintenance since installation"*

Rick Hendrix  
Superintendant of Mine & Mill

### Background

The Robinson Mine is a copper deposit located in the Robinson Mining District, adjacent to Ruth in White Pine County, Nevada.

### Challenge

Robinson Mine runs P&H 2300 electric shovels 24 hours a day, 365 days a year and at a cost of \$12,500 per hour. Each shovel has 10-16 luminaires; ~6 above the tracks for visibility of potential material obstructions and ~8-10 inside the interior for walkways, safety lighting and general illumination.

### Problem #1:

Current lighting on shovel is incandescent

- Lamps need replacing every 1-2 weeks due to excessive vibration on equipment and can take up to an hour to replace
- Lumen output is low and creates poor visibility in critical areas both inside and outside the shovel due to inadequate lighting

### Problem #2:

Fines from MSHA & OSHA due to inadequate equipment lighting can range from \$1000-5000 and potentially shut down a shovel.

Robinson Mine was looking for a lighting solution that provided extreme durability and high lumen output, keeping their shovels illuminated around the clock.

### Solutions

Vaporgard LED Series Luminaires; ceiling mount (V2LCHF2/DC) for inside and above the tracks and wall mount (V2LCHT2/DC) for service areas.



### Vaporgard Series LED Luminaires

Designed to provide full-spectrum, crisp, white light.

**Crouse-Hinds**  
by **EATON**



*“If a light is out we shut down the shovel...  
it’s a major expense”*

Rick Hendrix  
Superintendent of Mine & Mill

**Results**

Vaporgard LEDs essentially eliminated lamp maintenance and saved over \$1M in downtime:

- First shovel outfitted has operated without fixture failure for over 15 months
- Plant maintenance took lamp replacement off of the plant maintenance list
- Fixtures paid for themselves in roughly 3 months due to maintenance-free operation
- Project did not fall under capital expense, but was billed as an ongoing maintenance cost
- Improved safety, visibility and productivity on shovel lighting
- Eliminated potential for MSHA safety violations

**Summary**

- Product is currently a stock item for plant maintenance (6-10 units on hand at all times)
- Robinson Mines’ electrical supervisor and staff were impressed with the Crouse-Hinds™ LED product family and have specified Crouse-Hinds LED Luminaires for the entire mine site
- Plant fixture replacement is done area by area – retrofit areas include lighting for; mill plant, stackers, conveyor systems and tunnels

Because of the efficacy of the solution, eight other shovels at three other mine sites have been retrofit with Vaporgard LED luminaires.



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