Cold Storage Facility Performance Turnaround

SAFETYAMP SITE SENSE

> "The SiteSense monitoring platform identified performance deviations and after numerous corrective actions the facility was able to save $98,000 in annual electricity costs."

OVERVIEW

The SiteSense monitoring platform identified performance deviations at a cold storage warehouse that indicated significant operational inefficiencies. Using a structured diagnostic process, the facility implemented targeted corrective actions that reduced electricity consumption by 656,000 kWh annually, delivering approximately $98,000 in projected annual energy savings.

COMPANY AT A GLANCE

INDUSTRY	Cold Storage & Distribution
LOCATION	North Carolina, US
ELECTRICITY USAGE	More than 500,000 kWh/Month

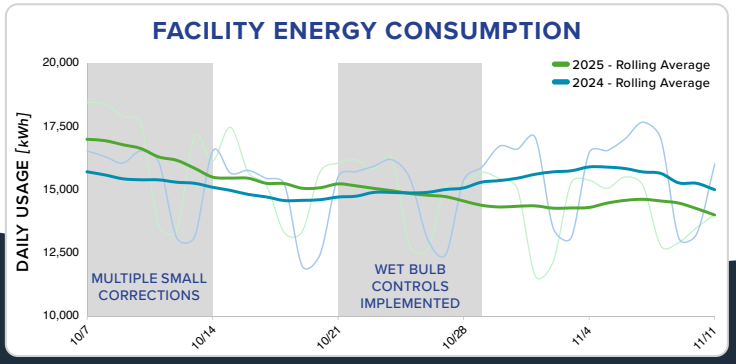
ENERGY CHALLENGES

Regular performance reviews showed the facility was falling behind its expected energy performance targets. While the annual goal was 13.9% savings, the site had achieved only 6.6%, leaving a shortfall of approximately 171,000 kWh. This growing gap between expected and actual performance triggered a deeper investigation into system operation and facility conditions.

INTERVENTION: CHECKLIST-DRIVEN DIAGNOSTIC PROCESS

A detailed operational checklist was issued, requesting the insight needed to begin corrective action. From this analysis, the following issues were identified:

1. **Condenser Performance Limitations:** Head pressure was running at a fixed setpoint instead of running a more efficient method of floating condensing pressure based on ambient conditions.
2. **Air Infiltration & Envelope Weaknesses:** Sticking doors and damaged barriers were allowing warm, humid air into low-temperature spaces, driving frost buildup and increased load on the system.
3. **Occupancy Sensors:** Lighting duration of 10 minutes was far longer than standard.



CORRECTIVE ACTIONS IMPLEMENTED

1. **Automated Condenser Wet-Bulb Control:** Enabled synchronization of head pressure with outdoor conditions in real time.
2. **Door & Envelope Repairs:** Fixed doors sticking open. Corrected gasket materials that were causing infiltration.
3. **Lighting Optimization:** Reduced occupancy timer from 10 minutes to a shorter 90 seconds duration.
4. **System Optimization (Ongoing)**
   - Suction pressure optimization for LT, MT, and ULT systems.
   - Condenser fans and pumps sequencing optimization.
   - Autopurger restoration to improve long-term efficiency by removing non-condensable substances from the system.

RESULTS: CLEAR & RAPID PERFORMANCE IMPROVEMENT

Following the corrective efforts, the facility experienced a measurable improvement in energy performance. Energy savings increased by 11.4%, resulting in an estimated **annual energy reduction of 656,000 kWh** and projected **annual financial savings of $98,000**. These improvements reflect the impact of targeted operational corrections and ongoing system optimization.

Supercharge your Energy Champions.

Grab a demo with one of our experts to see if the SafetyAmp platform is right for your team.

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