
MOTIVE POWER CASE STUDY | CUSTOMER “N”

A TWO-PRONGED APPROACH TO MAXIMIZE EFFICIENCY

Situation & Challenge

Cold storage applications have particular challenges when it comes to cost-effective powering a fleet of lift trucks. Cold temperatures can distort voltage readings which corrupts how the Battery Discharge Indicator (BDI) — the interchange between the battery and the truck — interprets the state of battery charge. BDI monitoring and recalibration is critical to any operations environment, but is vitally important in cold storage settings. It is also important to adjust charger settings to compensate for variations in battery voltage caused by extreme temperatures.

In the early 2000s, one cold storage account struggled to efficiently power its fleet in the face of these challenges. The company required over 300 batteries to power 150 trucks. Changed batteries randomly, multiple times per shift and typically was forced to replace the entire battery fleet every two years.

Additionally, huge productivity losses mounted as a fleet of 120 rider pallet hacks were constantly lined up for battery charges. High reach trucks with tall masts that prevented them from traveling to the battery changing room required a portable charger, further escalating cost and productivity issues.

Looking for a solution, the account worked with a conventional battery distributor to increase battery size (in terms of amp hours). Combined with the continued use of old SCR (silicon controlled rectifier) chargers, productivity continued to suffer, and capital for new batteries was required every two years.

When a lift truck dealer invited Concentric to meet with the management team at the cold storage account, the account was in the middle of a four-year lease and batteries were already dying.

ISSUES

Lots of pain; high maintenance costs; early equipment replacement; high labor cost to change batteries; congestion in battery room (safety, productivity).

SOLUTION

Blended program (opportunity charging and battery room); high frequency charging; battery rotation management system; remote monitoring; transferred responsibility to Concentric.

After a positive five year relationship, the cold storage customer renewed its second multi-year contract with Concentric. The account also engaged Concentric to manage the power needs of 320 more lift trucks at four sister plants.

Solution

Concentric completed a lengthy power study and assessment, delivering a detailed proposal that relied on precise power management. Concentric then implemented a twopronged approach to help the customer through the balance of the lease:

1. Concentric installed multiple high frequency chargers to equalize and extend the operating life of the underperforming batteries.
2. Batteries deemed unrepairable by the original provider were sent to Concentric for rehab and put back into rotation when possible.

With Concentric's help, the customer made it through the balance of its lease using maintenance expense budgets instead of relying on lean capital dollars. Power performance further improved when the customer implemented Concentric's GuaranteedPOWER® program. Under the program, Concentric provided high frequency chargers, a full maintenance program, close monitoring and calibration of truck BDI's, first-in, first out (FIFO) rotation systems in the battery rooms, and full remote monitoring.

Results

Battery size for rider pallet jacks was reduced from 750AH to 475AH, and the number of batteries in the overall system was reduced from over 300 to 215. In terms of dollars, the capital requirement was cut in almost half. Productivity and operational uptime improved at the same time.

After a positive five-year relationship, the cold storage customer renewed its second multi-year contract with Concentric. The account also engaged Concentric to manage the power needs of 320 more lift trucks at four sister plants. A total of 470 lift trucks have now been entrusted to Concentric's care by this account.