

Data-Driven Remodel Refrigeration Design

Our Client



Grocery retailer Golub Corporation, parent company of East Coast grocery chains Price Chopper, Market 32 and Market Bistro, sought to remodel one of its facilities, which included the addition of several refrigerated case lineups – yet adding any additional compressor systems at this store meant the electrical service entrance would have to be replaced, at substantial additional cost.

Our Solution

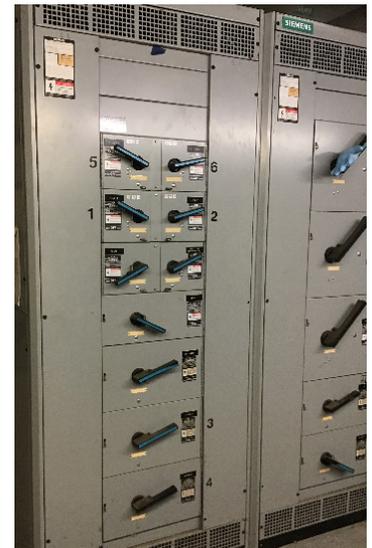
Typical refrigeration design practices often lead to refrigeration systems being deliberately or accidentally built with reserve capacity. Many individual steps of the design process have “safety margins” built into them. These safety values can have a compounding effect, leading to refrigeration systems with unexpected and unrecognized reserve capacity. In preparation for the addition of nine new refrigerated cases as part of this store’s remodel, BaselineES analyzed the existing refrigeration compressor racks to determine whether the existing store refrigeration compressor systems had to be expanded, or if they could support the new refrigerated cases without any additional capacity and the major electrical system upgrades that this would require.

BaselineES’s Design Team determined that the existing compressor racks had the capacity to serve additional refrigerated cases if some key load shifts were made among the racks

Fortunately, as part of BaselineES’s 24 x 365 Remote Services Center (RSC) monitoring services for this client, BaselineES engineers had been routinely collecting refrigeration and other mechanical system data from all of Golub’s store refrigeration and other mechanical systems and storing it in the RSC’s data cloud. By accessing this cloud-stored

data, BaselineES’s refrigeration design engineers were able to view site-specific compressor rack and refrigeration condenser operating data and associated outside temperature data during periods of “design-day” high-load conditions, and a fact-based assessment of the existing racks’ capacity for additional load could be made.

BaselineES’s Design Team determined that the existing compressor racks had the capacity to serve additional refrigerated cases if some key load shifts were made among the racks, and designed the remodel accordingly, by assigning the additional refrigeration load to the refrigeration systems most capable of handling the load.

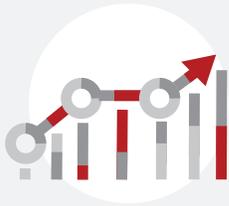


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Our Results



By using actual refrigeration system operating data collected and stored by BaselineES's RSC, and a creative design approach, BaselineES was able to successfully develop a remodel design with a substantial refrigeration load increase without having to modify the existing refrigeration system. This approach enabled the client to achieve their remodel objectives while avoiding the expensive addition of new compressor units and alterations to the store's main electrical service entrance, saving the client close to \$100,000 and greatly simplifying the remodel scope of work.



**Data-Driven
Intelligent Design**



**Approximately \$100,000 in
Avoided Expense**



**Remote Services Team &
Design Team Collaboration**