AULTMAN HOSPITAL

CANTON, OH | COMPREHENSIVE BUILDING INFRASTRUCTURE REPLACEMENT PROJECT

Brewer-Garrett



SIZE
1,300,000 sq. ft.

COST
$18,600,000

GUARANTEED SAVINGS
$19,269,965

GUARANTEED PERIOD
10 Years

DURATION
30 Months

SCOPE

- High efficiency chiller installation
- Hydraulic system modifications
- Piping modifications
- Variable Frequency Drive (VFD) installation
- Building controls integration

The Brewer-Garrett Company (**BG**), in conjunction with Aultman Health Foundation, worked to review and analyze the existing infrastructure of the Foundation's flagship location, Aultman Hospital. Based on this analysis, BG was selected to provide turn-key implementation of facility wide infrastructure upgrades. These upgrades address the immediate needs of the facility's infrastructure while providing guaranteed results in performance and energy reduction.

$19.2M
IN GUARANTEED SAVINGS

31%
ENERGY REDUCTION GOAL

BG replaced two (2) aging chillers with high efficiency variable speed chillers. To maximize performance, modifications implemented correct any existing hydraulic issues and allow for proper system operation and integration with the existing building controls system. As part of this renovation, an additional 850 ton cell was added to the cooling towers serving two other chillers in this facility. The upgrade of limited existing controls to an integrated digital control strategy offers more accurate operation and monitoring of system components. Additionally, the chiller plant in the 2010-Building, consisting of two (2) chillers was reconfigured to operate more efficiently. Piping modifications, the addition of variable frequency drives (VFDs) to the tower pumps, and reconfiguring the flow characteristics of the tower water system provide the additional control required to respond to the variable head pressure conditions and eliminate chiller surging. The efficiency gains generated by the chiller plant renovations have resulted in significant energy savings.

BG realized that many of air handling units (AHUs) utilized to move conditioned air through the occupied areas of the facility were showing signs of age and beginning to negatively impact patient and guest comfort. AHUs were replaced with modern, high-efficiency equipment which improved indoor air quality and comfort while achieving significant energy savings. Additional modifications include a reworking of the existing ductwork in occupied areas to implement a modern variable air volume (VAV) control strategy.

BG implemented an open protocol based automation system for the hospital's building control system. This type of system uses a collection of drivers to bring all data onto a common platform. As the automation system upgrades occur, a retro-commissioning process was performed to verify that all components are controlling properly and correct set points are in place. This process improved system performance and conserves energy by ensuring that all aspects of the system are functioning and operating within the parameters upon which the system was designed. As a result, the hospital's core infrastructure will function as a cohesive system, providing a more comfortable environment for patients, visitors and staff.



