Old equipment means opportunity for major energy savings

The Camelot, Queens, NY. Photo credit: NYSERDA

SNAPSHOT

Challenges
- Inefficient steam-driven cooling plant
- Single-speed condenser pump
- Oversized domestic hot water system and no hot water storage tanks

Solutions
- Installed two 200-ton, two-stage absorption chillers
- Added a two-speed condenser pump
- Put in two high-efficiency DHW heaters with two 200-gallon hot water storage tanks

Benefits
- 15% reduction in energy consumption
- Annual energy savings of more than $104,000

Nearly 1,000 residents call The Camelot home. The Queens co-op building dates back to 1969. Despite diligent care, old equipment has negatively impacted the building's performance. Even though multiple building upgrades had been completed through the years, the old equipment was wasting energy.

A top-to-bottom look at the building's energy use showed that updating multiple systems would yield powerful annual energy savings for residents — and a payback period that appealed to the co-op board.

Smart decisions for smarter systems

The project team focused on making the whole building perform more efficiently rather than simply swapping out old equipment. Two 200-ton, two-stage absorption chillers replaced the building's single-stage absorption chiller that used steam from two boilers. Just one of the chillers is sufficient to chill the entire building the majority of the time and can run at 50% power, which saves electricity and leaves the other chiller for backup. The condenser pump was upgraded with a two-speed motor, which operates at a lower speed when only one chiller runs, to save even more energy. Installing two high-efficiency heaters and two 200-gallon storage tanks upgraded The Camelot's domestic hot water plant.

Putting savings towards future improvements

The Camelot reduced its energy use by 15%. This reduction translates to annual savings of more than $104,000 and a project payback of just over 13 years. Building management and the co-op board are working to reinvest the savings into additional energy efficiency measures, including LED lighting throughout the building.

Get started

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