



High Rise Central Utilities Plant Retrofit Results in 47% Energy Reduction! New Chiller Plant Without Helicopters or Cranes Two Liberty Place

PRACTICE

Commercial Engineering
Commissioning
Concord Management Services

SECTOR

High Rise

LOCATION

Philadelphia, PA

SERVICES

Energy Engineering
Commissioning
Central Utilities Plant
Energy Retrofit

CONSTRUCTION COST

\$6 Million

PROJECT INFORMATION

The project consisted of replacing 2,000 tons of chillers with new high efficiency chillers, new fiberglass modular cooling towers, upgraded BACnet controls, a 1,000-ton plate and frame heat exchanger for free cooling in the winter and a dynamic chiller plant optimization software package to modulate the chillers, pumps, cooling tower and valves automatically based on demand!

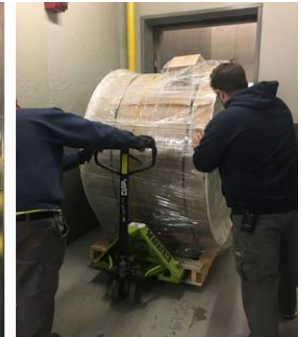
TESTIMONIAL

"We are constructions specialists combined with leading edge energy engineering, it's an unbeatable partnership," stated Dave Rich of RES.

VIDEO



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PROJECT BACKGROUND

Built in 1990 as one of the first class "A" high rises in downtown Philadelphia, **Two Liberty Place** is a 57-story iconic multi-use skyscraper. The building consists of 30 floors of Class A office space, 20+ floors of luxury condominiums, an upscale restaurant, retail shops and food court.

THE PROBLEM

- 25-year-old chiller plant was failing on the 38th floor.
- Dense build out of downtown area prohibited a helicopter lift or crane to access the 38th floor.
- Building was not designed for freight elevators or rigging paths to accommodate major mechanical equipment replacement.

THE SOLUTION

- Concord provided innovative HVAC and electrical engineering to utilize modularized equipment and assembled in place using a unique "Lego" type stacking solution.
- Along with our partner Rich Energy Solutions (RES), the team performed complex rigging analysis to transport the chiller/cooling tower components through retail spaces and in small freight elevators up to the 38th floor.

THE RESULT

- ✓ The project was finished without any disruption to the residents, office, and retail tenants.
- ✓ The building's thermal plant is saving approximately 47% in energy usage.
- ✓ Qualified for a Philadelphia Electric Company (PECO) custom incentive and received a significant rebate from their commercial incentive program.