



1 Background

Located in downtown San Jose, CA, the Community Towers Complex consists of the 10-story Great Western Bank Building and the 12-story California Commerce Bank Building, which together encompass a total of 350,000 sq ft (33,000 m²). Both were constructed in the 1960s. In the early 1990s, while preparing to sell the complex, the owners set out to reduce their operating and maintenance costs compared to other office buildings in the downtown area to enhance the property's profitability and its attractiveness to prospective buyers. While searching for a contractor to replace a set of aging chillers, the owners heard about performance contracting and learned that they could reduce energy and maintenance costs even further through a comprehensive energy conservation retrofit. They also learned that a healthier work environment for their building tenants — including better lighting and improved indoor air quality — could further enhance the marketability of their building.

The owners sent out a request for proposals for an energy efficiency retrofit and received three bids. Within a month of receiving the bids, the owners selected Viron Energy Service and signed a contract for the job. The contract called for Viron to provide an audit of energy use in the building, systems engineering design and construction management for the energy improvements, training of building operations staff, post-installation maintenance, and performance monitoring of the new systems.



Figure 1. Community Towers Complex.

2 The Project

Viron estimated that the buildings were using an average of 4.4 million kWh of electricity and 104,000 therms (11 TJ) of natural gas per year. Based on an assessment of the buildings' equipment, Viron recommended improvements including high efficiency lighting, electronic controls, and conversion of air distribution systems to variable volume with digital zone control. A high efficiency domestic water heater was also installed. Two 30-year-old, 500-ton (1800 kW) capacity centrifugal chillers were replaced with two high efficiency, 275-ton (970 kW) capacity, CFC-free, rotary screw chillers.



While most ESPCs are based on ESCO or third-party financing, with repayment out of the customer's savings stream, in this case the building owners were able to finance the entire \$1.4 million project themselves. The local gas and electric utility, through its demand side management program, provided utility rebates totaling \$260,000, reducing the net cost of the project by 19%. The owners financed the project over a 7-year period with a positive cash flow.

Under its contract with Community Towers, Viron guaranteed an annual energy cost savings of \$175,000, and the project resulted in \$20,000 per year in maintenance savings, for a total annual savings of \$195,000. To support its energy savings guarantee, Viron provides electronic monitoring through the energy management system. A monthly report is sent to Community Towers indicating the actual energy cost savings relative to the guaranteed savings. As in most other contracts of this nature, if savings guarantees are not met, Viron pays the building owners the amount of the shortfall.

3 Results/Lessons Learned

Community Towers' owners say that they consider the contract a success. Taylor Clayton, Vice President of Boccardo Properties, enthusiastically describes the benefits of the comprehensive energy efficiency retrofit from a building owner's perspective. "I consider the energy savings as fuel for improvements to our business. The new systems, including chillers, have greatly benefited our customers. In the long and short haul this investment will help us to renew our leases and bring new customers to our buildings."