



National data center saves \$500K on annual energy costs

A national, Fortune 500 company with a large data center in Austin, Texas turned to CLEAResult to increase efficiency and reduce operating costs while improving redundancy, longevity, and reliability.

We analyzed and produced a summary of data center records to understand energy usage patterns, then applied our Design Build Solutions team's experience and expertise to designing a mechanical cooling system retrofit using our proven approach and efficient technologies.

Technology Improvements

- ✓ 697-ton variable speed centrifugal chiller using 80 percent less energy than the existing chiller
- ✓ Ultra-quiet cooling tower with demisting cone eliminates most of the vapor plume visible to surrounding neighborhoods
- ✓ Redundant 40-horsepower condenser water pumps with variable frequency drives (VFDs) produce increased energy savings and reliability
- ✓ 100-micron inline, low pressure, self-cleaning, stainless steel filter reduces operating expenses
- ✓ Redundant chilled-water pumps converted to variable-speed operation to eliminate the need for chilled-water bypass, reducing overall energy use
- ✓ Direct drive, EC plug fans installed in 24 air handlers enable quieter, more reliable service and significant energy savings
- ✓ Existing chillers remain intact as emergency backup, adding necessary redundancy

Our Results

After installation was complete, the project saved more than \$500,000 in annual energy costs and paid for itself in just 21 months. In addition, our work achieved the following environmental impact equivalencies:

- ✓ Eliminated the annual greenhouse gas emissions of **954 cars**
- ✓ Eliminated the CO2 emissions produced from the annual electricity use of **686 homes**

Project by the numbers

\$519,500

annual energy cost savings

6.5M kWh

annual energy savings

\$228,600

utility incentive received

< 2 Years

simple payback period

> 50%

customer ROI

6 months

total construction time

"This is by far the most efficient operating system we have here and the design is impressive."

- **Client Critical Facilities Manager**