

RANDALL LAMB

“With OptimumHVAC, not only were we able to get optimal efficiency from our client’s HVAC system, but the first year savings exceeded expectations by 45%. The ability to track operating performance online has also been very positive, enabling our client to see the savings in real-time and continuously maintain the plant for peak performance.” **Chris Weixelman, Associate Principle, Randall Lamb**

Pharmaceutical Facility Seeks HVAC Solution

The U.S. pharmaceutical industry consumes nearly \$1 billion in energy annually. Lab facilities often have environmental and cleanroom requirements that call for 24/7 heating, ventilating and air conditioning (HVAC). As a result, HVAC can consume as much as 65% of a facility’s total energy use, making HVAC a prime target for energy efficiency initiatives.

Rising energy prices and a strong emphasis on corporate social responsibility led a top pharmaceutical company to seek out innovative technologies to reduce energy consumption in its San Diego, California research lab.

The company turned to San Diego-based Randall Lamb, a consulting and engineering services firm known for its expertise in sustainable and energy efficient design and engineering, to find a solution that would lower the company’s carbon emissions and reduce climbing energy costs.

Randall Lamb Redesigns with OptimumHVAC™

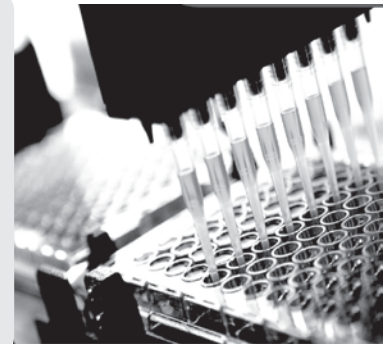
Randall Lamb conducted an extensive evaluation of the pharmaceutical facility and found that the existing chilled water plant was operating at an average of 1.6 kW/ton. The firm recognized that redesigning the HVAC system for better energy efficiency could play a major role in meeting the company’s environmental goals.

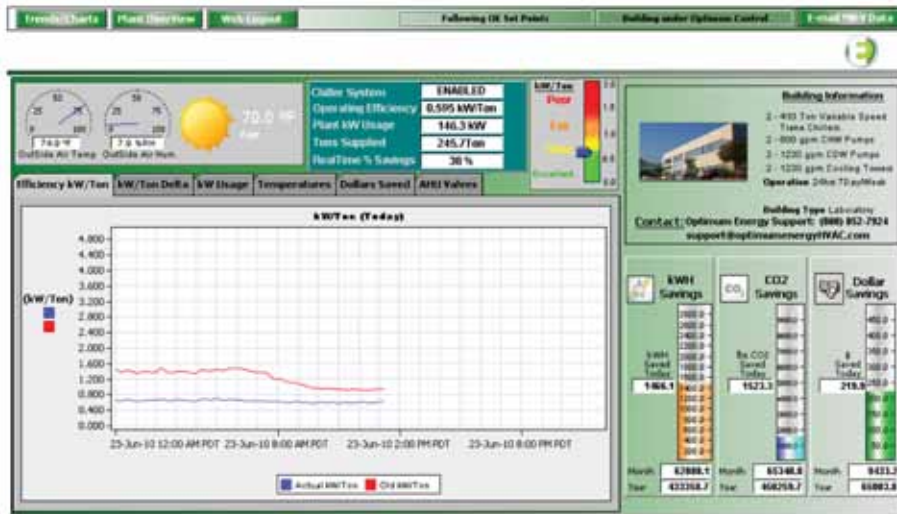
The existing plant consisted of a primary-secondary pumping configuration and two 400 ton centrifugal chillers that were approximately eight years old. The Optimum Energy efficiency engineering team worked closely with Randall Lamb to redesign the system to an all-variable speed, primary-only configuration using the existing centrifugal chillers. Randall Lamb deployed the OptimumHVAC optimization solution to maximize the energy efficiency potential of the system’s variable speed capabilities.

THE STATS

First year performance with OptimumHVAC:

- /// Saved more than 1,140,600 kWh of electricity
- /// Reduced operating expenses by \$171,000
- /// Lowered wire to water kW/ton from 1.60 to 0.67, a 58% improvement
- /// Decreased carbon emissions by 1.19 million lbs
- /// Qualified for utility rebates of \$86,000





Online OptimumMVM services provide a variety of at-a-glance performance summaries and trend charts that help operations teams maintain HVAC systems for peak energy performance.

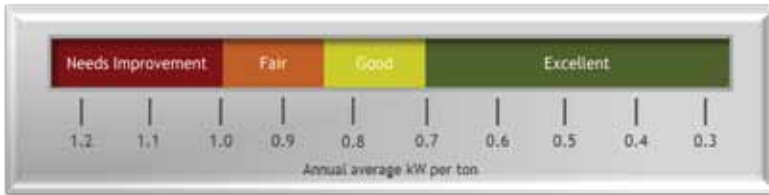
OptimumHVAC Exceeds Preliminary Savings Estimates

OptimumHVAC's OptimumLOOP™ and OptimumMVM™ software applications deployed at the research lab provide continuous, automatic system-level optimization of chilled water plants based on real-time cooling loads. With OptimumLOOP running the overall operational efficiency of the chiller plant increase by 58% as the OE efficiency scale below shows. The pharmaceutical facility saved more than 1.1 million kWh during the first year, exceeding preliminary estimates by 45%. And the ongoing measurement, verification and management services of OptimumMVM provide facility managers with the operating data they need to deliver the continuous commissioning that will deliver that same level of sustained savings year after year.

OE Chiller Plant Efficiency Scale

Pre-installation
Annual operating
average was
1.60 kW/ton

Post-installation
Annual operating
average is
0.67 kW/ton



Pre- and post-installation performance comparison.

ABOUT OE

Simply put, Optimum Energy is the energy optimization expert. We use integrated software and cloud computing to optimize HVAC systems to deliver sustained energy reductions. Organizations like Mineta San Jose International Airport, the University of Texas at Austin and a variety of Fortune 100 corporations rely on the Optimum Energy OptimumHVAC solution for the continuous commissioning that maintains energy optimization year after year. Contact your local OE sales representative for more information about HVAC system optimization from Optimum Energy.

