



# Harvard Pilgrim Health Care Data Center



## COMPREHENSIVE ENERGY EFFICIENCY TREATMENT

ENGIE Services U.S. (ENGIE) performed a comprehensive energy analysis for Harvard Pilgrim Health Care, one of the country's leading health insurance plan providers. Efficiency measures, designed and installed by ENGIE, save Harvard Pilgrim Health Care over \$80,000 a year in data center energy costs, as well as qualifying them for over \$90,000 in utility incentives.

## THE PARTNERSHIP

The ENGIE data center engineering team worked closely with Harvard Pilgrim Health Care to maximize efficiency in the unique design parameters of their 2,500 sq. ft. data center in Quincy, Massachusetts. The data center is split between a raised floor area of approximately 2,500 sq. ft. and a solid floor area of around 1,500 sq. ft. ENGIE performed several upgrades to make the air distribution in the room as efficient as possible. Elimination of cold and hot air streams mixing together was solved by the installation of blanking panels and air dams. Since the control room of the data center was also situated above the same raised floor plenum that is used for cold air supply, it was walled off to increase the pressure and thermal efficiency under the floor. ENGIE then installed floor panels with high efficiency variable speed fans to more effectively supply air to the racks. The floor panels' fans respond to temperature sensors in the racks to provide as much cooling as needed for that particular zone's equipment. A return air ducting system with thermostatically controlled air movers was also installed to pull air from the hot aisles directly to the Computer Room Air Conditioning Units (CRAC). In the solid floor room, thermostatically controlled overhead air movers were installed to pull cold air to different parts of the room as needed. These improvements allowed for one CRAC unit in each room to be turned off and left in hot standby.

## Program Summary

- Annual Electricity Savings: 505,715 kWh
- Utility Incentive: \$92,711
- Simple Payback: 1.3 Years

## Energy Efficiency Measures

- Controls
- HVAC

### 3 DIMENSIONS OF IMPACT

ENGIE is committed to building three dimensions of impact in every customer's future:



#### Supporting People

- The central control system implemented to manage CRAC units, floor panels, overhead air movers and temperature sensors in the rooms, allows the data center managers to look at real-time data from the rooms, including temperatures in the cold aisles, fan speeds, status of equipment as well as alerting them via email of any thermal issues in the room. In addition, the system responds to severe temperature changes in zones or CRAC failures by automatically turning on additional CRACs and adjusting the speed of the fans to help the particular zone in trouble.



#### Saving Money

- ENGIE qualified the project for nearly \$100,000 in incentives, for an impressive simple payback period of 1.3 years. Air distribution upgrades and a central control system installation resulted in annual savings in excess of \$80,000.



#### Protecting the Environment

- The combined energy efficiency measures are saving 505,715 kWh annually, a significant reduction in the energy-intensive data center's carbon footprint.

