



BETTERBRICKS
Bottom line thinking on energy.

KAISER PERMANENTE'S EAST INTERSTATE MEDICAL OFFICE

PROJECT OVERVIEW

OWNER: Kaiser Permanente

LOCATION: Portland, OR

BUILDING TYPE: Urgent care
medical office building

SIZE: 51,000 square feet

COMPLETION DATE: January 2007
(Building Tune-up)

ELECTRIC UTILITY: PGE

INTRODUCTION

When Tony Moiso took over as Facilities Maintenance Manager at Kaiser Permanente, he inherited 43 buildings in a region that stretches from Longview, Washington to Salem, Oregon. Managing such far-flung facilities presents a significant challenge. He decided to upgrade the building controls to provide remote access and a centralized view of the buildings' systems. He also wanted to maximize this investment by making sure the buildings were operating as efficiently as possible.

"The [BPS process] gives us an opportunity to look at the whole facility, identify the trouble spots and resolve those issues for the least cost."

Karl Friesen, PE, LEED AP
Senior Account Executive, CCI

Karl Friesen, Senior Account Executive at Control Contractors, Inc. (CCI), suggested using BetterBricks' Building Performance Services (BPS) approach to identify the most cost-effective opportunities for building improvement. This combination of a building tune-up with ongoing enhanced Operations & Maintenance (O&M) efforts usually results in significant savings for building owners. Karl presented a proposal to bundle the BPS services with the control system upgrade.

For Tony, this top-to-bottom analysis made sense. He chose the East Interstate Medical Office for the pilot project: a 30-year old building offering a host of HVAC energy efficiency opportunities.

STRATEGY

Building Tune-Up—the BPS approach includes a building tune-up, a systematic examination of the building's mechanical system to find opportunities for energy savings and improve performance. Greg Fraser, Service Project Manager at CCI, worked with the facilities team to:

- Check air handlers for mechanical failures
- Document sequences of operations
- Examine schedules and set points
- Verify connectivity of equipment
- Evaluate sensor functioning
- Set up trend data

Kaiser Permanente



In the process, the team identified and fixed a number of problems such as stuck dampers, disconnected reheat coils and miscellaneous issues with the variable air volume (VAV) boxes.

Enhanced O&M—Kaiser Permanente’s strategy for maintaining building performance over time was to appoint Marty Zapp, Chief Engineer at the East Interstate Medical Office, as the HVAC System and Controls Champion. As Champion, Marty is in charge of:

- Proactively identifying and solving system related problems
- Educating himself and the team on proper maintenance of the system
- Tracking and managing system performance
- Communicating system performance to management

The tool that Marty and his team use in this work is the upgraded interface to the control systems, provided by CCI. With remote access, a visual overview and graphical controls, Marty and his team are able to be much more proactive in maintaining the building’s systems.

“...[CCI] identified a lot of opportunities for us. As we’re going along here, we’ve identified even more opportunities.”

Marty Zapp
Chief Engineer and
HVAC System and Controls Champion
Kaiser Permanente

RESULTS

Improved Quality of Care—Since the BPS process was implemented, Kaiser Permanente has reduced its occupant complaints by nearly 23%. Now with a comfortable building, both staff and patients can relax and focus on the important work of getting well.

OPPORTUNITY	SAVINGS*/YR	KWH/YR
Implement weekend & holiday scheduling	\$13,500	225,000
Recalibrate critical control sensors	\$5,952	99,200
Additional opportunities related to use and scheduling of outside air	\$13,454	224,240
Total	\$32,906	548,440

FINANCIAL ANALYSIS

Cost of Building Tune-Up: \$18,000

Cost to Implement Opportunities:
\$26,060

Cost Share: \$9,750

Potential Annual Savings:

\$32,906

548,440 kWh

Simple Rate of Return (ROI): 75%

Simple ROI (after cost share): 96%

(upgraded controls interface was an additional investment of \$31,523)

TEAM

Building Owner: Kaiser Permanente

Building Service Providers:

Control Contractors, Inc.

Utility: PGE

Partner: BetterBricks

Cost and Energy Savings—the building tune-up identified several opportunities for Kaiser Permanente to save both money and energy:

Such savings could allow Kaiser to purchase new medical equipment related to patient care. Yet the success of this project doesn't just benefit Kaiser Permanente and its patients. The energy Kaiser saves is enough to power 46 average Oregon homes, a considerable contribution to the community as a whole.

Continuous Improvement—Having worked with CCI to examine the mechanical systems thoroughly, the facilities team is now better equipped to identify and track down problems. They've already identified and fixed a number of additional issues. With the systems in better working order and a graphical overview of the building, the team can respond to complaints quicker and even anticipate problems before someone calls.

“Now we can monitor the system easier and identify hot spots quicker.... You need to listen to what complaints [the occupants] have and try to help them. Help them identify what's causing the problem.”

Ron Hegel
Engineering Apprentice
Kaiser Permanente

FUTURE PLANS

The pilot project was such a success that Kaiser Permanente has asked CCI to apply the same process to nine more buildings. Over the next three to four years, Kaiser plans to extend this approach to all 43 buildings. To maintain the performance they will conduct building tune-ups on each building every three to five years.

Kaiser Permanente is leading a charge. As more building owners follow suit, the implications are enormous—especially in the energy intensive, not-for-profit healthcare industry. Every dollar saved can be channeled directly into patient care and mission-critical goals. The energy saved becomes available to the rest of the community. With better building performance, these hospitals and clinics are not only supporting the health of their patients, they are supporting the health of their communities on both a local and global scale.



“By going through and doing a [tune-up] on those buildings, we'll come up with solid recommendations for improving the environmental control of the building, and the fringe benefit is energy efficiency.”

Tony Moiso
Facilities Maintenance Manager
Kaiser Permanente