KAIZEN BLITZ PILOT

Report Two

Prepared for:
Energy Trust of Oregon

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Introduction

Energy Trust of Oregon (Energy Trust) is operating a program within its Production Efficiency (PE) Program to implement a Kaizen Blitz initiative with select Energy Trust customers (Kaizen Blitz). The Kaizen Blitz is being implemented by Cascade Energy Engineering (Cascade) under Energy Trust oversight. The Kaizen Blitz initially targeted four to five sites in the warehouse or food processing industries with substantially sized refrigeration systems. Four customers ultimately participated (Cohort 1). A second cohort (Cohort 2) of five customers began in December of 2009.

The program process consists of an initial on-site tune up followed by technical support provided for a year. During the initial on-site tune up, Cascade works intensively with the participant, on site, for up to a week to identify low or no-cost opportunities to reduce facility energy use through improvements made to the refrigeration, lighting, door, HVAC, and battery systems. Where possible, the recommendations are implemented on the spot. A final report (Final Report or Action Items Report) is prepared documenting the energy savings opportunities into an action plan for the following year. The report also identifies capital upgrade projects with good potential for producing an attractive return on investment.

Follow-up engineering support is provided periodically for a year to track the action items identified in the Action Items Report but also to support the participants in developing a tracking system to monitor energy use performance. The objective is that through a combination of tools and coaching, the facilities can become somewhat self-sufficient at tracking energy. Approximately a year after the Action Items Report is delivered, a final inspection is conducted and a report prepared to document the measures that were ultimately implemented and the resulting energy savings (Inspection Report).

When the Kaizen Blitz was first introduced, Energy Trust paid 75percent of the cost of the technical support provided by Cascade and the customer was required to pay their portion (25 percent) before work commenced. Beginning with cohort three, the customer copayment will be eliminated and Energy Trust will pay for 100 percent of the technical support. Energy Trust provides an incentive equal to 50 percent of the eligible costs of the action items documented in the Final Report. The participant's

internal labor used to implement the action items is eligible for reimbursement. An enrollment agreement between Energy Trust and the customer documents the incentive and the customer's obligations and must be executed prior to the on-site tune-up. The participants receive an incentive calculated based on the energy savings realized by the action items identified in the reports.

The customer's obligations are to:

- Support the installation of meter monitoring equipment;
- Allow access to energy and production data;
- Allow facility access;
- Identify an energy champion;
- Authorize other personnel involvement throughout the project period;
- Pay their portion of the funding for the technical support; and
- Implement the action items identified in the Action Items Report.

The Kaizen Blitz is conducted as soon a possible after the agreement between Energy Trust and the customer is signed. The Final Report documents the findings of the Kaizen Blitz in a twelve month action plan. The Final Report is usually delivered within four weeks of the Kaizen Blitz.

Table 1 lists the Kaizen Pilot participants for Cohorts 1 and 2, along with the key dates of the Kaizen Blitz process. Dates in *italics* are targeted dates.

Table 1: Kaizen Blitz Participants

	Part ID	Facility Type	Kaizen Blitz Conducted	Final/Action Plan Report Date	Inspection Report Date
Cohort 1	2353	Distribution Center	May 5 - 9, 2008	June 12, 2008	September 11, 2009
	2366	Dairy	June 3 – 6, 2008	July 29, 2008 Rev. August 8, 2008	March 9, 2009
	2482	Distribution Center	September 29 - October 2, 2008	January 5, 2009	March 17, 2010
	1845	Frozen Foods Processing	June - August, 2008	Rev. Nov. 1, 2008	December 18, 2009
Cohort 2	2925	Dairy	December 7 – 9, 2009	February 11, 2010	December 13, 2010
	2866	Frozen Foods Processing	Sept. 22-23, Oct. 27 and Nov. 17, 2009	April 21, 2010	January 4, 2011

			March 31, 2010		
	2926	Distribution Center	January 11 - 13, 2010	February 15, 2010 Rev. March 31, 2010	September 15, 2010
	2725	Canning and Processing	May 3-6, 2010	June 20, 2010	September 30, 2010
	3173	Bakery	October 12-14, 2010	December 9, 2010	*April 15, 2012*
	3174	Dairy	December 7-9, 2010	January 12, 2011	*May 15, 2012*

Conclusions and Recommendations

Conclusions

All of the cohort one participants reported that they are maintaining the changes they made during their Kaizen Blitz participation and all participants are confident in their ability to sustain the savings they've achieved over the long term. Some have incorporated practices learned from the Kaizen Blitz into daily routines and maintenance procedures in order to ensure continued savings.

Participants are mainly motivated to undertake the Kaizen Blitz by the potential for energy and cost savings. Having an outside opinion and a better understanding of facility operations are also seen as highly valued benefits of participating.

The incentives were effective at reducing the return on investment to acceptable levels and motivating the participants to action.

Participants said that the energy information system is a useful tool for tracking energy use and savings, and all but one said that they have had a chance to use it personally. The majority of participants said that the system was easy to set up.

For cohort two participants, the level and frequency of use of the energy information system varied considerably across participants. Most participants responded that they use the tool monthly, weekly, and bi-weekly.

The Kaizen Blitz was considered a success by all participants and has made them more likely to undertake initiatives with Energy Trust in the future.

Cascade Energy's unique expertise and knowledge was highly valued by participants and instrumental to the success at the individual participant sites. Participants were particularly satisfied with Cascade's quick response-time to questions or concerns.

Actual barriers experienced during the Kaizen Blitz included time and labor constraints, especially internal labor constraints during peak business seasons. Other participant concerns included keeping staff organized internally and keeping track of Kaizen Blitz documents, costs, and labor hours.

Participants are applying techniques and action items from the Kaizen Blitz at their other facilities.

Participants said that the time frame was reasonable to complete action items, with some participants able to complete most items within three to six months.

Recommendations

Program information or presentations about the Kaizen Blitz should inform potential participants that their staff can expect to spend from 10 to 30 percent of their time implementing the Kaizen Blitz action items. This will establish realistic expectations with participants and ensure that those firms who enroll are well prepared for the engagement.

Cascade should work with participants to develop a process or tools to assist the participants with tracking regular maintenance labor versus Kaizen Blitz-eligible labor and other paperwork required to submit for their incentive.

The program should allow for follow-up support or mentoring ensuring that the changes made are maintained. At a minimum, Cascade should make regular follow up inquiries to offer assistance with any issues with the implementation of the action items or the e-manager tool.

Cascade should document participant best practices and resourceful solutions to issues and make this information available to participants.

Energy Trust or Cascade should consider commissioning enhancements to the energy information system, such as the ability to incorporate site production data, break out end uses, change report intervals, and present results graphically.

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MEMO

Date: April 20, 2012
To: Board of Directors
From: Philipp Degens, Evaluation Manager
Kim Crossman , Sr. Industrial Sector Manager
Subject: Staff Response to the Process Evaluation of the Kaizen Blitz Year 2 Report

The Kaizen Blitz (KB) Pilot resulted in highly satisfied customers who continue to maintain O&M processes that will allow energy savings to persist over time. These results provide additional support to the decision to add these services to the regular Production Efficiency (PE) program offerings.

Many of the successful elements utilized in the KB Pilot are being adopted in other Energy Trust program offerings, such as the PE program's Refrigerator Operators Coaching and the Existing Buildings program's Building Performance Tracking and Control Systems Pilot.