KAIZEN BLITZ PILOT

Report One

Prepared for:
Energy Trust of Oregon

Navigant Consulting, Inc.
One Market Street
Spear Street Tower, Suite 1200
San Francisco, CA 94105

415-399-7100
www.navigantconsulting.com

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Introduction

Energy Trust of Oregon (Energy Trust) is operating a pilot program within its Production Efficiency (PE) Program to test the Kaizen Blitz concept with a small sample of Energy Trust customers (Kaizen Pilot). The Kaizen Pilot 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 pilot program process consists of an initial on-site tune up (Kaizen Blitz) followed by technical support provided for a year. During the initial Kaizen Blitz, 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 during the Kaizen Blitz 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 Kaizen Blitz, a final inspection is conducted and a report prepared to document the measures that were ultimately implemented and the resulting energy savings (Inspection Report).

Energy Trust pays 75% of the cost of the technical support provided by Cascade. The customer is required to pay their portion of the cost before work commences. An enrollment agreement between Energy Trust and the customer documents the incentive and the customer's obligations and must be executed prior to the Kaizen Blitz. 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 during the Kaizen Blitz.

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	*February 2011*
	2866	Frozen Foods Processing	Sept. 22-23, Oct. 27 and Nov. 17, 2009 March 31, 2010	April 21, 2010	*April 2011*
	2926	Distribution Center	January 11 - 13, 2010	February 15, 2010 Rev. March 31, 2010	*March 2011*
	2725	Canning and Processing	May 3-6, 2010	June 20, 2010	*June 2011*
	0001	Dairy and Bakery	*September 1, 2010*	*September 29, 2010*	*September 2011*

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Conclusions and Recommendations

Conclusions

A technical review of two sets of Kaizen Blitz reports found that they are generally well suited to the needs of the customer, administrator, and evaluator.

Participants are motivated to undertake the Kaizen Blitz by the potential for energy and cost savings, though other benefits provide additional support.

The incentives were effective at reducing the return on investment to acceptable levels and motivating the participants to action. The value of the cost sharing aspect is less clear, with some participants indicating that they could have used those funds to complete additional action items.

Though the participant's experience with the tool is limited by time, early indications are that it's easy to set up, easy to use, and of great benefit.

Participants are confident in their ability to maintain the savings they've achieved during the Kaizen Blitz and the follow up period.

The Kaizen Blitz was a positive experience for most participants and has made them more likely to undertake initiatives with Energy Trust and their PDCs in the future.

Cascade Energy's involvement was a major reason that participants enrolled in the Kaizen Blitz and their unique expertise was driver of the success at the individual participant sites.

Participants expressed very few initial concerns about participating in the Kaizen Blitz.

Actual barriers experienced during the Kaizen Blitz were limited to staff's resistance to making changes, usually out of concern that the equipment will fail resulting in lost production or product.

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

Participants had mixed opinions about the time frame required to complete the Kaizen Blitz action times, but the 90 day, 90% incentive structure was effective at motivating participants to expedite their efforts.

Recommendations

Energy Trust should continue to sponsor annual Kaizen Blitz cohorts implemented by Cascade Energy. The Kaizen Blitz should remain largely in its current form but Energy Trust should consider making the following changes:

- To expedite the achievement of energy savings, consider shortening the length of time to allowed to implement the action items to no less than six to nine months with flexibility allowed for participants to start their engagement around seasonal operations and budgeting cycles;
- Continue the 90 day/90% incentive kicker to realize faster savings;
- Consider removing the cost sharing requirement; and
- Because of Cascade Energy's excellent reputation, past positive experience working with many firms throughout the industry, and ability to work effectively across organizations, Energy Trust should carefully consider the PDC's role in the Kaizen Blitz process. Customer presentations, the Kaizen Blitz event, and follow up support should continue to be conducted by Cascade Energy. However, the PDC's should be positioned to leverage the goodwill generated by assisting the participants with logging and invoicing for the incentive payments.