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Lean Transformation Reaps Millions in Savings for DTE Energy

Commitment to Continuous Improvement

Challenge

When DTE Energy merged with MCN Energy, it was viewed as one of the most significant events in the company's history. The merger positioned DTE Energy as a leading energy and energy technology provider with assets from subsidiaries Detroit Edison and MichCon worth more than $17 billion.

The company is focused on becoming the leader in distributed generation, producing electricity on site using a variety of equipment such as fuel cells, miniturbines and internal combustion engines, rather than producing it at large, centralized power plants or utility substations. To accomplish this, DTE Energy hired management consultant Andy Carlino of Achievement Dynamics. Carlino stressed the importance of applying lean principles in order to take DTE Energy to a more ideal state. After Carlino ran a successful series of kaizen workshops, the company committed to formalizing the process.

A continuous improvement group of 12 – 15 people was assembled, which evolved into the Operating Systems Strategy Group. The group was a blend of existing staff and newcomers including Shawn Patterson, named as the Director of the Operating System Strategy Group, and Jamie Flinchbaugh, appointed as DTE Energy's Operating System Manager. This group became the force behind DTE Energy's journey toward lean transformation.

DTE Energy was committed to make changes that would improve its costcompetitiveness and customer satisfaction, including both service and delivery. "Having looked across a broad range of business metrics, it became clear that we were solid, but not spectacular,' according to Patterson.

"The question was, with a company this size, where do we begin a process of improvement? We recognized that Andy had a deep understanding of our current culture as proven through the success of the kaizens. Together we tailored a program of transformation to meet our needs.'

Start with the basics

Lean transformation at DTE Energy began with five-day event kaizen workshops comprised of 5-15 people each. To date, DTE Energy has held over 100 kaizen workshops in every area of its business, from accounts payable to finance to corporate communications to how the company bills its utility business partners. The first task in each workshop was to document a particular operation's current state through a series of process maps. Next, waste and non-value added activities in the current state were identified. From that information, the teams worked to redesign an ideal state. At this stage, specific lean tools such as one-piece flow, 5 S's, visual control and error-proofing were employed to improve a

particular operation. Finally, the detailed analysis of the gap between the current and ideal state was prepared and used as the basis for the action plan to follow.

Formation of an Operating System

It was after the kaizen action plans were in place that the DTE Energy team began developing the framework of the company's lean transformation. Flinchbaugh was assigned the task of taking the improvement effort beyond the kaizen workshops to an organization-wide lean-based system, which became known as the DTE Energy Operating System -- a set of principles and tools used to build the infrastructure necessary for the company's continuous improvement. It is the "lens', if you will, through which employees should view their everyday work.

DTE Energy's Operating System is a combination of thinking, action, and seeing (illustration A) based upon the PDCA (plan-do-check-act) cycle. Around the core ruling guide of developing people, DTE Energy's continuous improvement cycle is based upon four principles. First, you start with careful planning to help you reach stated goals and objectives. You next follow up with consistent (standardized) and effective action. Results of this action must then be measured and analyzed. Then, if necessary, corrective actions taken which leads the cycle back into planning and goal setting.

These methods apply to DTE Energy's specific objectives and the company's anticipated results in four key areas: people, financial, customer and stakeholder; and competitive position. Developing an operating system for DTE Energy has been an ongoing process of planning, building, learning, and evaluating with several iterations resulting in an enterprise-wide rollout in late 2003, after 24 months of development and implementation.

While working together on DTE Energy's Operating System development, Carlino and Flinchbaugh decided to join forces, formalize their lean training process, and offer lean learning to other companies. Together with ex-DaimlerChrysler exec Dennis Pawley, they founded the Lean Learning Center (Novi, Mich.), a business dedicated to developing leaders and learners for lean transformation.

Carlino and Flinchbaugh continue to assist DTE Energy today. While the Operating System is a single document, "the system is not what exists on a piece of paper but is how DTE Energy thinks together and works together to improve its systems,' according to Flinchbaugh.

Lean learning impacts the bottom line

Documented cost savings to DTE over the last two and a half years as a result of lean and the Operating System development is in excess of $150,000,000. The improvements come from a numerous initiatives throughout the organization. Examples of improvement include accounts payable, where standardized procedures and streamlined processed reduced time between invoice receipt and check-cutting from 45-60 days down to six days, allowing DTE Energy to take advantage of prompt pay opportunities. And, prior to lean thinking being introduced, small transformer repair took an average of 31 days. Now it takes less than two days. Because of increased throughput in this area, the company was able to bring additional repair work into the organization, representing a $3 million improvement.

One very recent improvement involved the improvement of warehouse inventory accuracy, a critical requirement with the new Sarbanes Oxley Act. DTE Energy was able to improve its accuracy from below 80% up to 96% in less than two months and 30 days ahead of schedule. This saved the supply chain organization almost $400,000. Plus, there are the numerous intangibles such as improved employee engagement and morale as well as quality improvements due to adherence to the Operating System.

Where does DTE Energy go from here? Onward and upward is the plan as the company's goal is to create substantial business improvements in quality, cost and delivery through Operating System Demonstration Projects.