

Volume 14, Issue 13 ☐ March 26, 2007

Important 2007 Dates to add to your calendar...

- ☐ **Mar 30th, 9-12pm, GMT Meeting.** Host: HPM Office. GMT Changes+increasing leveraging among HPM'ers.
- ☐ **April 13th, 9-12pm, HPM IT Roundtable.** Host: Hammond Power Solutions, Guelph.
- ☐ **April 19th & 20th, Lean Accounting for Lean Manufacturing.** Led by Brian Maskell. Location: Pavillion Royale, Miss. Contact Barb at AME directly at 905-681-6039 or bjacklin@ame.org for details.
- ☐ **Apr 20th, GMT Meeting.** Host: Labelad, Markham
- ☐ **Apr 23rd, Lean Practitioners' Exchange.** Host: GE Multilin, Markham
- ☐ **May 7th, HPM SIG: Supervisors' Roundtable.** Host: Bird Packaging, Guelph
- ☐ **May 23rd, HPM Board Meeting.** Host: Volvo Motor Graders, Goderich
- ☐ **Jun 11th, HPM Lean Practitioners' Exchange.** Mancor Industries, Oakville
- ☐ **Jun 18th, HPM Leveraging Tour** Host: Nexans, Fergus
- ☐ **June 18th-22nd, LEAN CDN Regional "MeasureUp for Success Conference".** Location: Edmonton. Call-4-presentations: www.measureupforsuccess.com
- ☐ **Sep 5th, GMT Meeting.** Host: Willow Manufacturing, Toronto
- ☐ **Sep 10th, Leveraging Tour** [New Member - TBA]
- ☐ **Sep 19th, HPM Board Meeting.** Host: Tempress
- ☐ **Oct 10th, HPM GMT Meeting.** Host: Rockwell Automation, Cambridge
- ☐ **Oct 15th, HPM Lean Practitioners' Exchange.** Host: COMDEV Space, Cambridge
- ☐ **Nov 12th, HPM SIG: Health & Safety.** Host: Velcro Canada, Brampton
- ☐ **Nov 21st, HPM Board Meeting.** Host: GE Multiin
- ☐ **Dec 5th, HPM Share Showcase.** Location: TBA
- ☐ **Dec 10th, HPM SIG: Supervisors' Roundtable.** Host: Hammond Manufacturing, Guelph
- ☐ **Dec 17th, Lean IT Roundtable.** Host: Gerrie Electric.

Wanted: An HPM'er who would attend

Webinar: "Toyota's Misunderstood but Powerful Lean Management Tool: Strategy Deployment" Delivered by: Pascal Dennis. Author of "Getting the Right Things Done."
When: Wed., March 28, 2007 - 2:00pm EDT
Duration: One hour – and it is free
Next Step: Register – Industry Week
<http://www.industryweek.com/EventDetail.aspx?EventID=294>
Want your summary for the newsletter... time for your byline?

Milton Location of Eaton Electric Earns Top Recognition

HPM Members will remember our Board Meeting held at Eaton's Milton operations. You may recall what they showed us, and their extensive use of Visual Management techniques. It appears they achieved what Steelcase did a few years ago under the leadership of Brian Clements and his team when they too were given resources to refresh their 720,000 sq. ft. facility(Around \$10M)

Since we were there, some interesting things have happened to the plant you saw. (Ref: SME's excellent newsletter "Lean Directions" – register online at www.sme.org)

The Company: Eaton Electrical's Milton, Ontario, Canada, Low Voltage Distribution Assembly (LVDA) plant manufactures electrical distribution equipment (panelboards, switchboards and transfer switches) for areas that need electrical power, such as high-rise apartments, office buildings, commercial sites, industrial buildings and hospitals.

The Challenge: In a rapidly growing and increasingly challenging industry, the company hopes to continue with—and improve upon—the waste-reducing strategies it implemented in 2003.

The Innovation: By effectively implementing lean manufacturing into its plant, the company earned the confidence of its head office and a \$3 million investment soon followed.

A clean start: Before we set foot in Eaton Electrical's Milton, Ontario, Canada, based manufacturing plant, Dwayne Kolodka, the facility's operational excellence manager, offers a pre-emptive apology. "Sorry about the mess," he says. "We're going through major renovations right now."

At first, it's not immediately clear what he's talking about. The LVDA plant—where the company manufactures panelboards, switchboards, automatic transfer switches and power distribution units for commercial buildings—like many lean plants, is impeccably neat. Every tool is in its place, and all inventory is organized and tucked away. The plant's layout flows smoothly, making the most of its 111,000 sq ft (33,833 m). And the floors gleam.

The only two areas that could be considered "messy" are tucked to the side. And unlike many plants, the disarray is a sign of success—representative of the next step in the company's lean journey. A massive turret punching machine—that will allow the company to store steel inside it before it punches the appropriate parts—is in the middle of construction. Nearby is a blocked off area that will soon be the plant's new paint line—another part of the \$3 million investment the plant received from its head office in Pittsburgh.

Since Eaton implemented lean manufacturing practices across its 235 plants in 2003, this facility has ranked number one for three years running. It used Eaton's eight lean tools—value stream mapping, 5S, total productive maintenance and Kanban techniques, among others—to free up 32,000 sq ft (9,754 m) of floor space, reduce panelboard cycle time to six minutes, boost on-time delivery from 72 percent to 92 percent and reduce inventory costs by \$500,000.

Its successes have earned the 200 employee facility attention from the company's head office—and expensive new equipment to increase its efficiency. "You have to build corporate confidence before you get the money," said John Klein, the company's plant manager. The path to building corporate confidence started with employee involvement—and it proved to be one of the most difficult steps in the process. "The biggest challenge was changing the culture of the people," says Joe Fisher, the operations excellence manager for Eaton Electrical's Canadian operations. "We were always a company that embraced change, but this time we wanted to make changes to the shop floor and involve the workers there. It was tough because we had never included them before."

Getting management to understand the long-term nature of the lean transition, and the importance of fostering new attitudes and programs, was also difficult, Fisher said. "Everyone is trying to get products out the door—lean is just seen as something extra," he said. "You need to have a plant manager that embraces lean and pushes lean...you also have to have a dedicated lean leader. If you make it a part-time job for everyone it's never going to happen."

Under the guidance of the plant's lean coordinator, Mike Bernardo, the company came up with an all-inclusive program to ensure 100 percent employee involvement. Each employee at the Milton plant is

part of a team that represents a process in the Eaton lean system of eight tools, dealing specifically with such things as continuous flow, pull systems and setup reduction. Associates undergo roughly 40 hours of training a year, and approximately 40 percent to 60 percent of that is lean training that occurs in an office off the manufacturing floor.

Getting everyone on board—and keeping the company on track, as new employees were hired on—had a lot to do with the message sent from the top. "Management said 'this is the way we're going to do it,'" said Hans Frommer, the manufacturing engineering manager. "That strong commitment from the top down was very effective."

The first lean practice the LVDA tackled was value stream mapping. The manufacturing engineering team and the lean team—a team dedicated solely to the continuous improvement of the plant—came together to develop a "future stream map" and highlight problem areas. "Identifying waste was the first step," said Frommer. "We've been whittling away at that for the past few years."

The plant floor soon became a highly visual environment, with visual systems such as andon boards, a CHIP-In Board (used to track the evaluation process of employee suggestions) and inventory boards used as an alternative to manually counting the inventory every day.

From there, the company slowly transformed from "station built" to "flow line" as associates and team leaders identified the low hanging fruit, initially focusing on the areas where they would see the biggest return on their investment, such as minimizing the walking distance between the associates' workstations and the inventory. As they covered more ground and each individual station started to flow better, a new problem arose—the entire plant became a huge bottleneck because different parts of the plant weren't flowing together.

"It was a rat maze," said Eurof Meurig, a lean associate and pull system team champion. "Then they decided to put in the paint line and that was a good opportunity to get things flowing better."

The Milton facility has undergone tremendous changes over the past few months—rotating the plant's footprint by 90 degrees to boost flow and make room for the new equipment. The change has made the plant much easier to navigate.

Starting at the receiving dock where raw sheets of steel are dropped off regularly, you can easily follow the manufacturing process—passing machines where the steel is cut, punched, welded and sent off to be painted (a step the company hopes to eliminate with the new paint line). The newly made parts are then stocked in a highly managed warehouse. Because just-in-time isn't possible for Eaton due to the large number of small parts that are regularly needed, the company focuses on making sure only the minimum amount of parts are sitting on the floor.

"In some cases you have to have some inventory or material on the floor," said Eaton's Production Manager, Tim McCabe. "You have to know the cycle time of that material and that becomes our inventory level."

Looking through the inventory racks you can see directly into the assembly area on the other side of the manufacturing floor. The clean setup and straight lines are proof of the plant's improved flow, says Kolodka.

Inventory from the racks, along with other parts that are supplied by other Eaton plants as well as outside suppliers, is fed into the assembly area where associates maintain their own mini-inventory of parts to minimize their travel time. Here, the customized electrical boxes are manually assembled on workbenches—with each employee responsible for a certain task.

The entire process is very simple in its setup, with very little machinery or automation - something Frommer hopes to change once the head office starts seeing the return on its \$3 million investment. "We'd like to install a roller conveyor on the turret punching equipment eventually," he said. "Automation may be the next step of improvement."

Until then, Eaton hopes to shrink its 10-day lead times down to one. Frommer anticipates that with the time and money the company will save painting its own products, the paint line will take approximately two years to pay off. The production team is also hoping to implement heijunka—ensuring another product doesn't come on the line until one comes off. And it is working to get its office areas on the lean track as well.

"The lean journey is like changing the mind of an 800 pound gorilla," said Frommer. "We are showing the

company we're dedicated to improve and ready to take on more."

About the author: Vanessa Chris is an associate editor for Advanced Manufacturing magazine.

The Power of the "Big Picture"

Adults need 'big pictures'. The greatest fear of human beings is not death – that is number 6. Number 1 is humiliation and embarrassment. That being said, keeping one's self respect in the workplace is just part of daily existence. Our best managers ensure that employees have the big picture as described by the company's vision and business objectives. That big picture empowers individuals to now commit 100%+ of their effort in the right direction. Without the big picture, why would a person want to take a risk or 'go all out', for by doing this, they would risk the humiliation and embarrassment associated with failure. It's safer to do only just what is required. Even though it's not a lot of fun -- it's closer to the comfort zone.

SPELL CHECKER

Eye halve a spelling checker;
It came with my pea sea.
It plainly marks four my revue,
Miss steaks eye kin knot sea.

Eye strike a key and type a word,
And weight four it two say,
Weather eye am wrong oar write;
It shows me strait a weigh.

As soon as a mist ache is maid,
It nose bee fore two long.
And eye can put the error rite;
Its rare lea ever wrong.

Eye have run this poem threw it;
I am shore your pleased two no,
Its letter perfect awl the weigh.
My spell checker tolled me sew!
(author unknown, but hats off to them!)