



“Sharing Information to Improve Reliability”



Re-charged Effort Creates Battery Charger Breakthrough

After attending a Defect Elimination Game® workshop and learning about the importance of defect elimination, Richard Padgett from Merck in Rahway, New Jersey decided to tackle a defect on his own. As the Facility Manager, it was critical for him to find ways to reduce future breakdowns, and a simple way to reduce those failures was to address the issue of frequent breakdowns due to fork truck battery charger connectors being broken.

Since the connectors were constructed of hard plastic, they broke easily with impact or careless use when the ends hit the ground or were accidentally run over.

Broken connectors have been a very common problem; so much in fact that during Richard’s investigation into the problem, he was surprised to discover that the mechanic was squirrel-stocking the replacement connectors. This fact made him realize how well known this problem was and re-charged his efforts to resolve the problem. He decided to use the “Don’t Just Fix It, Improve It” strategy.



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Why Should We Approach Organizational Change as a Project?

By Winston P. Ledet

Benchmarking studies have shown that approximately 84% of work orders are generated by not taking proper care of the equipment. A plant’s reliability can improve by engaging workers to do defect elimination through the use of cross-functional action teams. When the teams begin eliminating the random failures that are responsible for so many of these work orders, they begin to realize that these failures were responsible for causing most of the production losses, safety issues, environmental upsets and high production costs. This allows the organization to experience a vision of the value they could attain if they did defect elimination in all their facilities going forward. With this vision in mind, managers can see how much effort is necessary to attain that vision and recognize the level of resources that must be committed to achieve it. Once a plant achieves the vision, everyone can see what is necessary to transform the whole company.

Three processes are needed to ensure the completion of the transformation, and they must take place simultaneously: Function, Leadership and Management.

Function: This first process (defect elimination) is needed to improve the functioning of the organization. This process is focused on the particular

product and production process with a concentration on eliminating defects from the equipment first. This process continues throughout the project as the means to reduce the small distractions that are wasting people’s time. The means of making these improvements are cross-functional action teams doing meaningful work together. Work is meaningful when people can apply their experiences collectively. They learn from each other as they take action together. The cross functional approach helps them to see how the results from the combined team are more intelligent due to the different perspectives, histories and functions of the team members. This process is aimed at creating functional excellence in the care of the equipment and answers the question: “What do we need to do to achieve our vision?” The key people here are the workers who do the physical work.

Leadership: This second process (create a shadow network) is needed to reinforce the bonds that are formed between people from different functions as they take action together and share their tacit knowledge as well as their skill and knowledge of the needs of the equipment. This process uses stories of successful action teams as a means to communicate the value of defect elimination to

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SCHEDULE

Throughout the year, The Manufacturing Game® holds workshops for the general public at universities and/or professional organizations.

For more information visit www.mfg-game.com

Conferences of Interest



Houston Chapter of SMRP Maintenance and Reliability Symposium

Moody Gardens—Galveston, TX
August 23–24, 2012

Golf Tourney August 22, 2012

Visit the Manufacturing Game® at Booth #100
For more information or to register visit: www.smrphouston.org



MinExpo 2012

Las Vegas Convention Center
Las Vegas, NV
September 24–26, 2012

Visit the Manufacturing Game® at Booth #912
www.minexpo.com



SMRP Annual Conference
Orlando, FL
October 15–18, 2012
www.smrp.org



IMC 2012
Bonita Springs, Florida
December 4–7, 2012

Visit the Manufacturing Game® at Booth #2
www.MaintenanceConference.com

Mark Your Calendar!



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the organization. The knowledge and skill transfers communicate the know-how needed to succeed in the process. The stories communicate the significance of the improvements and the drama of forming and working as a team. This bonding into a network across functional boundaries and across levels in the organization is an essential part of providing for the needs of the equipment. This is the true essence of maintenance work: tending to the needs of the equipment so that it is able to “maintain” its’ functionality over time. This process is aimed at creating a level 5 leadership process in the organization where the person or people with the best experience are making the decisions for the caring of the equipment while the management takes care of the social needs of the people doing the work. This process answers the question of: “How do we accomplish the vision?” The key people for this process are the ones who have the knowledge and experience and are willing to take a lead position in the implementation of the improvements regardless of their rank in the organization.

Management:

The third process (choosing the right equipment to work on) is needed to ensure that the essential nature of the improvements is focused on the business needs of the organization. Improvements are not for their own sake, they must serve the purpose of the organization, or they are not improvements. The best form for this third process is a project. This project should be in place early in the initiative and should

be focused on making sure that the improvements will focus on the most advantaged targets for the good of the business and all of the stakeholders. In most cases, the best targets are the pieces of equipment that fail most often. While some equipment is more critical than others, the welfare of the organization depends on the reliability of the whole facility. If small defects are distracting people’s attention to the extent that they are making poor decisions, then it is essential to eliminate those defects that are creating the distractions even if they are not on critical equipment. It is the purpose of this third process to evaluate the situation and choose the appropriate target equipment to enable the organization to have the “will” to complete the transformation. This may involve creating the right teams rather than analyzing what equipment is most critical. This management process focuses on getting the maximum value from the engaged resources.



This process answers the question of: “Why are we doing this in the first place?” The key people here are the ones who are entrusted with the resources of the organization and are willing to allocate these resources to produce the most significant value for the organization within the acceptable risks that come with valuable undertakings.

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The dynamics of a transformation to higher reliability and the extra value that accompanies it are controlled by three forces:

1. The worker pursuing Defect Elimination
2. The idea of identifying a shadow network to provide level 5 leadership
3. The authority to provide the resources for working on the right equipment

These three forces are connected to the three processes (Function, Leadership and Management). The first process is connected to the people doing the physical work. The second process is connected to the subset of people who are willing and able to take a leadership role in some aspect of the organization and is open to all members of the organization. The third process is connected to the subset of managers who are authorized to commit resources to attaining goals and have the courage and insight to maximize the value of those resources to the organization.

To accomplish the goals of the three processes requires three different forms of work.

Function: In the first process, the key to getting the form right is to create cross-functional teams and

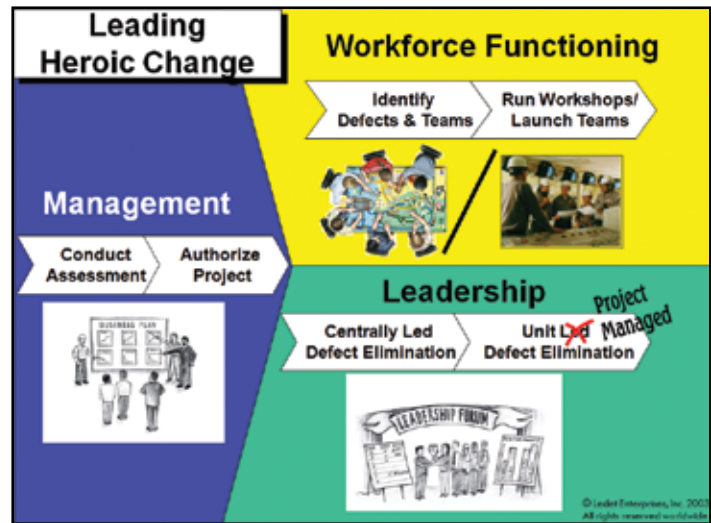
give them the freedom to use all of their talents and understanding in service to the equipment.

Leadership: In the second process, the key is to form a strong network of people across functional and level boundaries to take advantage of everyone's intelligence and tacit knowledge as well as skills.

Management: In the third process, the best form is a project which clearly allocates resources to particular defect elimination tasks and schedules people and equipment to accomplish those tasks or suffer the consequences of failing to do their job.

Based on our experience, it is wise to apply these ideas to groups no larger than 500 people at a time. This way you can engage all of the people in the project within one year. This is necessary in order to develop the momentum needed to overcome the inertia that exists in most organizations when it comes to making large scale sustainable

change. This usually means that larger plants have to be done one area at a time to succeed or run simultaneous projects on areas that



have autonomy from other areas.

The Manufacturing Game® workshops are often used to break down the communications boundaries between departments and show the need for defect elimination. The action teams, that are formed after each workshop, begin to establish the foundation for the socio-technical networks and the exchange of knowledge. The vision is shared and communicated throughout the facility. For more information email info@mfg-game.com or call (281) 812-4148.

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Richard first contacted the battery charger vendor to discuss the issue. The representative from Modern Equipment Rental came up with an idea to fix the problem. He suggested purchasing cable retractors or Pogo sticks and installing them on all the battery chargers that had a spring loaded arm.

Richard placed the order, and when the retractors came in he planned and scheduled the work to be done. Since the installations, Richard has noticed a drastic reduction in the repairs of broken connectors. He plans to conduct

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Work Completed



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“The world is moved along, not only by the mighty shoves of its heroes, but also by the aggregate of the tiny pushes of each honest worker.” —Helen Keller



Summer

TMG News

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future visual inspections and look at other similar installations across the site to implement the same improvement company wide.

The cost of the cable retractors was minimal, only \$54.00 each, and there was no special authorization or permission needed to eliminate this defect. Richard is pleased to report increased throughput and reduced cost for labor and materials not to mention the fact that the elimination of this defect has improved working conditions. Good work, Richard!

Good work, Richard!

The Defect Elimination Game® is a customization of The Manufacturing Game®.

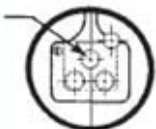
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 Golf Tournament
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