

Lean Six Sigma Continual Improvement Methods and Techniques at NASA Michoud Facility



By Joe Wiley

NASA Michoud Lead Facilitator Lean Six Sigma



Continuous or Continual?

The terms *continuous improvement* and *continual improvement* are frequently used interchangeably. But some quality practitioners make the following distinction:

- *Continual improvement*: a broader term preferred by W. Edwards Deming to refer to general processes of improvement and encompassing “discontinuous” improvements—that is, many different approaches, covering different areas.
- *Continuous improvement*: a subset of continual improvement, with a more specific focus on linear, incremental improvement within an existing process. Some practitioners also associate *continuous improvement* more closely with techniques of statistical process control.



MSFOC Operating Excellence



Method used to collect potential Improvement opportunities



- Ideas are review weekly and management decides which ones go forward for a JDI (Just Do It) and which ones need a Kaizen.
- Directors take ownership of each Idea and a central location tracks progress of all Ideas.
- All submitters of Ideas get a LSS Coin and lunch at yearly award banquet along with all participants in Kaizens.



Yearly Management Objectives

- Brainstorm with Directors and develop a yearly top 10 list using Multi-Vote (Think-tank)
- Develop a list of Ideas to accomplish each item on list
- Develop a Kaizen list to Gemba each Idea and either validate a business case or eliminate from list



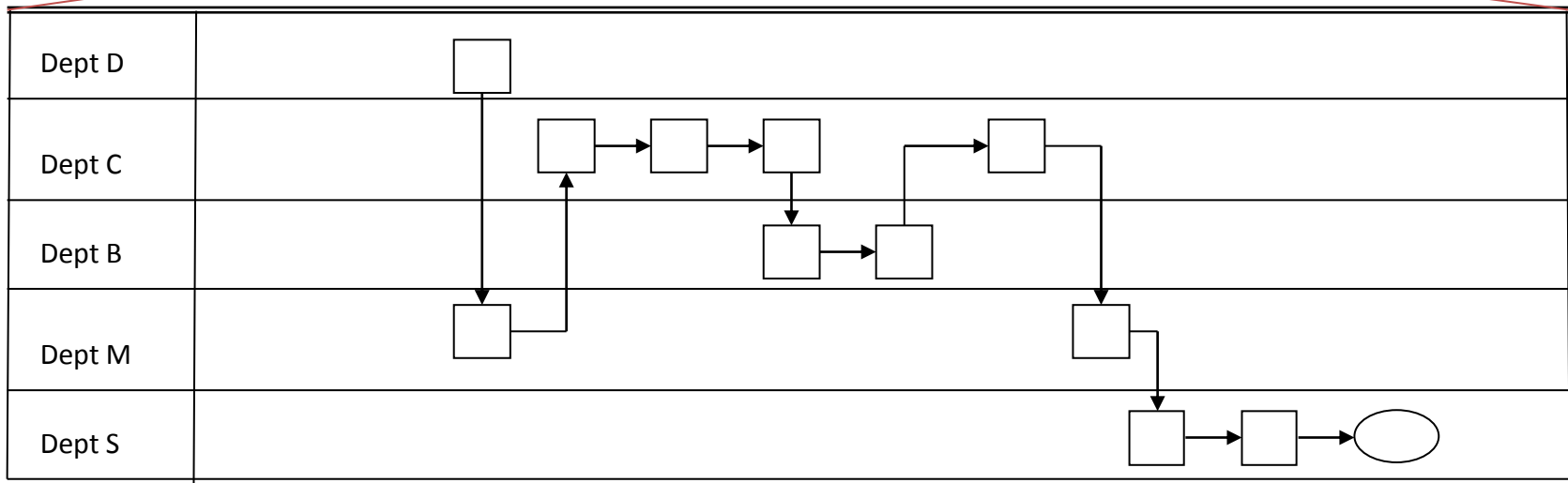
Continuous Improvement

- Kaizen Events conducted to define, streamline, and improve processes
- Metrics used to monitor performance

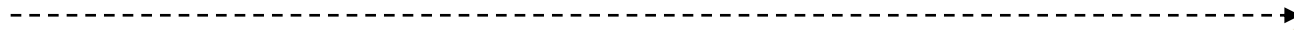


Create a Functional Process Map

- Shows not only the linear sequence of activities, but also the responsible functions for each activity



TIME



Value-Added Analysis

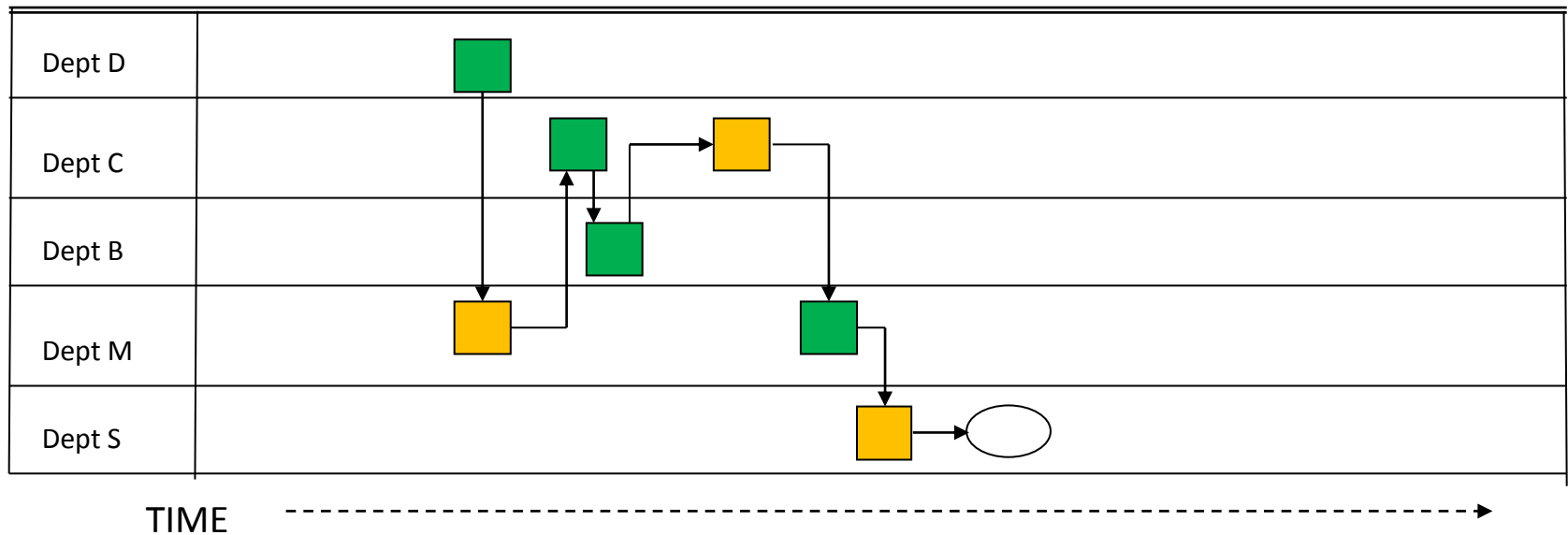


- Non-Value-Added – activities that consume resources but creates no value in the eyes of the customer.
- Non-Value-Added Required – activities that add no value but which cannot be eliminated due to regulations, customer requirement, current technology, etc.
- Value-Added – activities which change the form, fit, function, or usability and which the customer is willing to pay for and which is done right the first time.



Future State Process Map

- Remove the waste
- Also a good time to consider what activities can be performed in parallel for fast tracking





MSFC



How we Audit our new process

- 6 months from implementation we go to Gemba (Walk the process)
- Annotate any differences and ask the question why?
- Look to make unexpected improvements part of the process
- Identify the “return to bad habits”, correct course, and schedule next audit or Kaizen



Completion Report: **MAF Jacobs New Tenant Phase-In Process Kaizen**

Date Event Completed 25 February, 2010

The way we used to do it...

- Lengthy
- Confusing
- Reactive
- Not Defined
- Customer is lost in process

The changes we made...

- Streamlined Badge process
- Opened lines of communication
- Critical process started early
- Needs communicated early

The way we do it now...

- Faster
- Proactive
- With measurable results as to how customer perceived process



Facilitator/Black Belt: Joe Wiley

Team Lead: Keith Heitzman

Team Members: Ray Vogel, Mick Lindstom, Wil Henderson, Derrick Jones
Rhonda Hickman, Nagesh Diwakar, Colin Lusk, Rob Gravolet, Vic Silecky
(Not Pictured) Jason Clayton, Ron Kent



Operations & Engineering Panel (OEP) Commendation for MAF

Best Practices (These should be shared across the Agency)

- In preparing for the MSFOC performance period, MAF recognized the importance of customer requirements and stakeholder satisfaction. They placed a requirement for the use of Kaizen teams to improve contract performance
 - MSFOC has effectively implemented and used chartered Kaizen teams to focus on specific improvement opportunities

