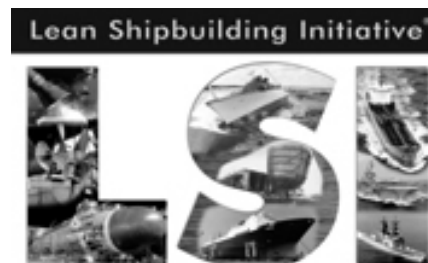


Crackerbarrel Report-Out Sustaining Lean

Thursday, September 14, 2006



Sustaining Lean

- Sr. Management Support
- Middle Management
- Deck-plate/Event Level

Sr. Management Support

- What Works
 - Physical Presence
 - Setting the Vision
 - Setting Goals
 - Executive Level Planning
 - Key Value Streams
 - Setting the right metrics
 - Working the right thing
- What Doesn't Work
 - Too Many events for the enterprise to support
 - Flavor of the Month mentality
 - Excessive Delegation / Not personally involved
 - Sr. Mgmt Turnover
 - Unavoidable
 - Train/Educate all levels

Middle Management Support

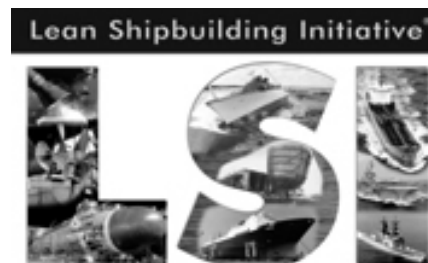
- What Works
 - Charter / Preparation for Event
 - Personal Performance Goals (correct incentives)
- What Doesn't Work
 - Cannot waste the time of Middle Mgmt
 - Cannot always convert i.e. May have to change the “Concrete Heads”

Deck Plate / Event Level Sustain

- What Works
 - Documentation of Change (Locked)
 - 90/180 day Process Follow-up
 - Plan of Action/Milestones Formal Tracking
 - Recognition
 - Empowerment
 - Use of Moonshine Teams to implement peer suggestions
 - Constant Visible Improvement
 - Re-education of new members
- What Doesn't Work
 - Too Many Events prevent formal follow-through
 - Too many outsiders or non-stakeholders driving the changes
 - Lack of inclusion of all parties
 - Not understanding the culture or motivation of workforce

Crackerbarrel Report-Out Reward Systems

Thursday, September 14, 2006



Reward Systems

- **Summary**

- *Rewards* are used to recognize performance or behavior to encourage continuation. Rewards can be material or non-material, financial or non-financial, public or private, formal or informal and they can originate at a multitude of levels within an organization.
- Effective rewards and recognition programs are generally seen as those that are timely, frequent, appropriate and meaningful.

Reward Systems

The level to which your organization's incentive system successfully contributes to achievement and sustainability of Lean objectives.

Lean Practice I.D.5. Incentive Alignment Reward the behavior you want	CAPABILITY LEVELS									
	Level 1 There is <u>sporadic use of incentives</u> and an awareness that some incentives discourage lean behavior.		Level 2 Incentives that reward and encourage Lean behavior are <u>deployed in some areas.</u>		Level 3 Executive compensation and employee incentives are linked directly to attainment of Lean objectives.		Level 4 Incentive systems successfully <u>contribute to achievement and sustainability</u> of Lean objectives.		Level 5 Lean incentives are deployed with measurable <u>success across the extended enterprise.</u>	
	C	D	C	D	C	D	C	D	C	D
	Current 89%						Desired 81%			

Examples of Lean Indicators

- Incentives include a balance of money and non-monetary rewards / recognition to encourage lean activity.
- Incentives are based on performance measures that encourage lean activity.
- Incentives encourage local improvements that will benefit multiple processes or value stream performance.

Discussion Highlights

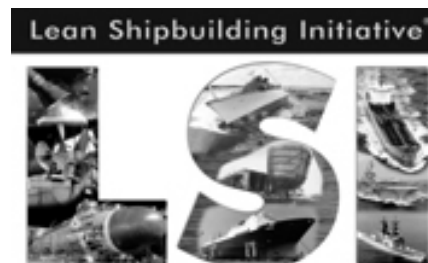
- Identified 55 reward and recognition items
 - 61% were categorized as rewards
 - 70% were categorized as formal
- What reward systems are used to facilitate the transformation to Lean/Six Sigma?
 - From formal monetary reward systems
 - To informal thank you and a handshake as recognition
 - Everything in between the two extremes
- Which reward systems work the best?
 - There is no single answer to what is the “best”
 - Depends on the organization & culture
 - Depends on individual perceptions of reward value
 - Some rewards lose their luster over time (or) what have you done for me lately?

Expectations

- **What were the top expectations of the participants?**
 - *Benchmark and learn what others are doing for rewards*
 - *Is there a connection between rewards and sustainability of Lean Sigma?*
 - *Is there a relationship between rewards and performance?*
 - *Should Lean Sigma be rewarded at all?*
 - *Are the rewards we put in place driving the right behavior?*

Crackerbarrel Report-Out Customer Alignment

Thursday, September 14, 2006



Customer Alignment

- **Summary**

- This session focused on identifying value from the eyes of the customer. The desired outcome is identified strategies, plans, and actions for the best ways to determine and keep current with what the customer values most.

- **Discussion Highlights**

- What are the best ways to keep current with what the customer values most?
- How do you identify and differentiate an external customer, internal customer, and end user?
- How do you identify value from the eyes of the customer?
- How do you determine whether you are satisfying the customer's expectations?

Customer Alignment (cont'd)

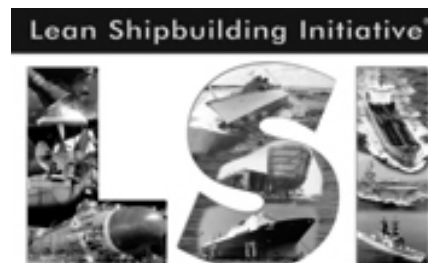
- **Who is the Customer?**
 - Internal/External
 - Paying/Receiving/Using
 - Stakeholders and Regulators
 - Navy/ Commercial
- **What do they want?**
 - Cost, Schedule, Quality
 - Best Value
 - Communication
 - Changes

Customer Alignment (cont'd)

- **How do you know what they want?**
 - Contract
 - Technical specs
 - Communication
- **Whose job is it?**
 - Everybody's
 - Process Ownership and Accountability
 - Training, Tools & Resources

Crackerbarrel Report-Out Lean Metrics

Thursday, September 14, 2006



Lean Metrics

- **Summary**

- If you can measure it, you can improve it.
- Need measures to determine biggest opportunities in your company

Lean Metrics

- **Discussion Highlights**
 - How do you measure the difference that Lean is making to your organization and for the customer?
 - What are the most effective Lean metrics?

Lean Metrics (cont'd)

Measuring Lean

- **Cost is the biggest focus**
 - Sometimes at the detriment of other factors
 - Usually without consistency
 - Not “Apples to Apples”
 - “Punished” if improved
 - Ex. Hours saved becomes reduction in heads
- **Measures**
 - **Management**
 - Man hour
 - Material cost
 - Cost per 1% progressed
 - Total cost savings
 - CPI (Earned value management system)
 - **Shop Floor**
 - Reduction in man hours
 - Cost per unit

Lean Metrics (cont'd)

Measuring Lean

- **Speed (Schedule) next biggest**
 - Percent complete was difficult to determine or irrelevant
 - Prone to subjectivity
 - Customer, original, ship need, “drop-dead,” etc.
- **Measures**
 - Management
 - Delivery to schedule
 - On time to major milestones
 - SPI (Earned value management system)
 - Shop Floor
 - Distance traveled
 - Before/After Kaizen (RIE) events

Lean Metrics (cont'd)

Measuring Lean

- **Quality**
 - Lack of definition of quality metrics
 - Typically after the fact or at customer
- **Measures**
 - Rework as cost of poor quality
 - Difficult to quantify
 - Number of UNSATs/non-conformities per unit
 - As reported by customer

Lean Metrics (cont'd)

Effective Metrics

- **Managing Business Metrics**
 - Focus on process metrics
 - Make sure “floor” problems are the reported problems
 - *What does the measure tell you to do?*
 - *Does the measure drive the wrong behavior?*
 - Management support or management attack
 - Direct/Indirect ratio
 - Cost/unit (Material and Labor)
- **Effective Measures**
 - Cycle time
 - Throughput time
 - On-time delivery
 - Percent “right the first time”

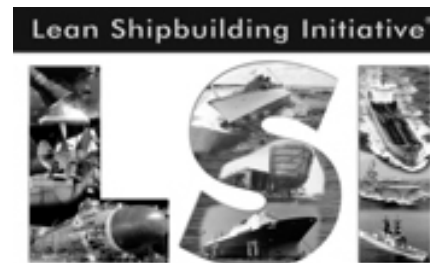
Lean Metrics (cont'd)

Conclusions

- **The metrics should tell if you have problems**
 - Problems become opportunities for improvement
- **Voice of Customer**
 - “One standard way to calculate manpower costs”
 - Across shipyards
- **Lean & Six Sigma Project Duration**
 - Function of WIP

Crackerbarrel Report-Out Lean Six Sigma Organization

Thursday, September 14, 2006



Lean Six Sigma Organization

- **Summary**

- Lean Six Sigma (LSS) is a strategic approach for developing a culture of continuous improvement in areas of process cycle time, cost, quality and productivity. We discussed the best practices to implement LSS to sustain a continuous transformation.

- **Discussion Highlights**

- What are the functions of a centralized Lean Six Sigma Office?
- Which functions should be decentralized?

Lean Six Sigma Organization

What are the functions of Centralized L6S Office ?

- **Best Practices/Lessons Learned**
 - **Strategic Planning**
 - **Keep “Commandments” of L6S**
 - **Training in Lean**
 - **Capture Savings**
 - **Share Knowledge**
 - **Deploy people to events**

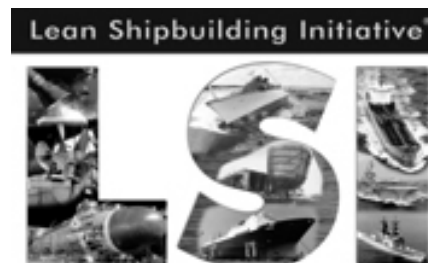
Lean Six Sigma Organization

Which functions should become decentralized ?

- Best Practices/Lessons Learned
 - Project selection
 - Belt resource allocation
 - Implementation
 - Benefits
 - Sustainment

Crackerbarrel Report-Out Lean Above The Shop Floor

Thursday, September 14, 2006



Lean Above the Shop Floor

- **Summary**

- The same approach and methods apply above or on the shop floor. Certain unique aspects of the products and processes should be accounted for.

- **Discussion Highlights**

- Why is above the shop floor a separate subject?
- It is part of the enterprise value stream
- Call it “Business Processes” rather than “Above the Shop Floor”
- Leadership Commitment critical
- Often organizational barriers exist between process steps
- A.S.F processes may be physically disconnected
- Typically salaried. Pride of ownership of bad processes.
- Shop floor processes tend to be measured more than above the shop floor (A.S.F)
- ASF processes are not well defined

Lean Above the Shop Floor

- **Summary**
- **Discussion Highlights**
 - Products are often not tangible. Hard to visualize lean.
 - High variability of type of tasks and products.
 - Hard to understand final impact of products downstream
 - ASF processes are early in the value stream with large impact on shop floor

Lean Above the Shop Floor

- **Best Practices/Lessons Learned**
 - Identify high level value stream
 - Demonstrate quick wins to get people on board-5S/Visual Control
 - What's in it for me
 - Have office personnel visit shop floor to see lean in action
 - Use job rotation/observation to gain an appreciation for downstream effects of bad processes/products
 - Training/Education important including simulation
 - Use a strategic approach to selecting projects
 - Identify vital few value streams to attack
 - Define products
 - Define processes
 - Identify process ownership – Bring together all V.S. members
 - Identify downstream customer

Lean Above the Shop Floor

- **Best Practices/Lessons Learned**
 - Set goals for business process projects
 - Use enterprise value stream focus
 - Shop floor processes are greatly affected by upstream processes
 - Use shop floor events to identify above the shop floor processes to improve
 - Walk the value stream for first hand knowledge
 - Define process metrics
 - Separate process problems from input problems
 - Focus on interface points between silos
 - Beware of web/IT based processes which are not visible – audit or measure