



Integrating Hazardous Materials Management Into Your Lean Operating Model!

David McLaughlin, CSP
Director – EH&S
Waste Strategies

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About Me



Currently live in Pittsburgh, PA

Lived ten years in Columbia, SC

Spent majority of my career in
heavy industry working for:

- US Steel
- Electrolux
- Bose
- Carpenter Specialty Metals

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Discussion Topics



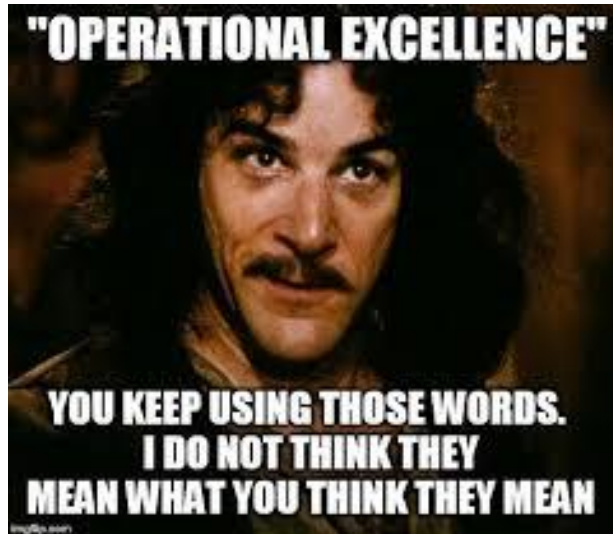
1. Introduction to the basic concepts / memes
2. Addressing Common Problems of Implementation
3. EH&S Process Interactions (PDCA)
4. Understanding the Requirements (Haz Mats)
5. Establishing Standards
6. Identifying Potential Problems
7. Problem Solving
8. Measuring Performance



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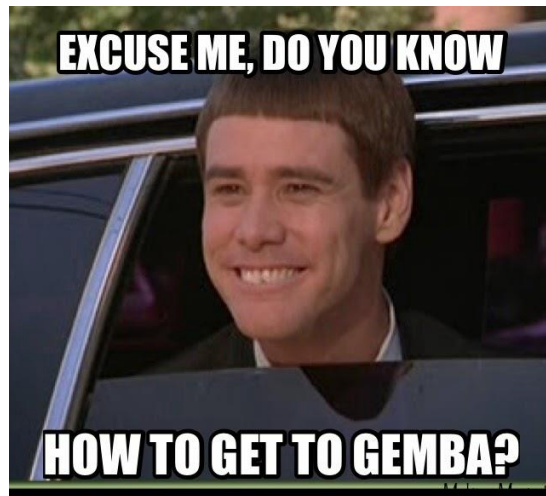
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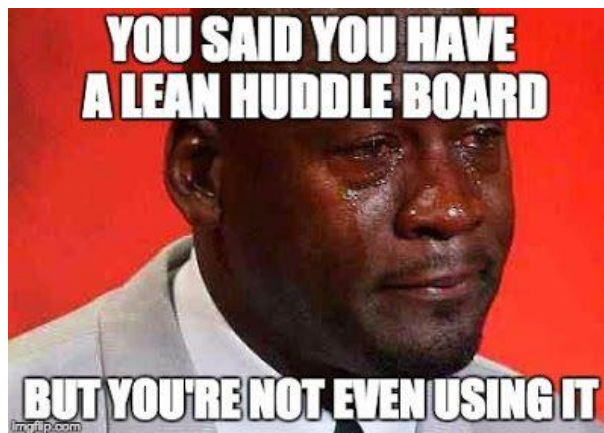
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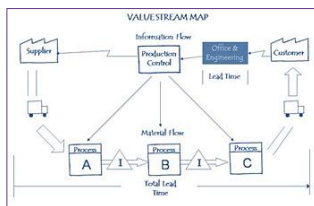
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Understanding The Basics



What is Lean?

An approach to business processes that aims to minimize waste. Via - Kaizen, Value Stream Mapping, 5s, Kanban, Error Proofing, Productive Maintenance, Set Up Time Reduction, Reduce Lot Sizes, Line Balancing, Schedule Leveling, **Standardized Work**, and Visual Management.



By: Pankil Shah

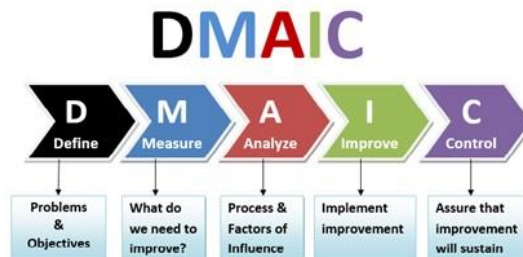
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Understanding The Basics



What is Six Sigma?

An approach to business processes that aims to minimize variation to improve output and quality via - Recognize, Define, Measure, Analyze, Improve, Control, **Standardize**, and Integrate.



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Understanding The Basics



What is Operational Excellence?

Operational excellence can simply be described as a **philosophy** that embraces **problem-solving** and **leadership** as the key to continuous improvement.



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What does your organization need you to do?

Be a:



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Common Problems with Implementation



For the EH&S Professional

- Lack of involvement at start
- Choosing What to Measure
- Problem Solving Methodology

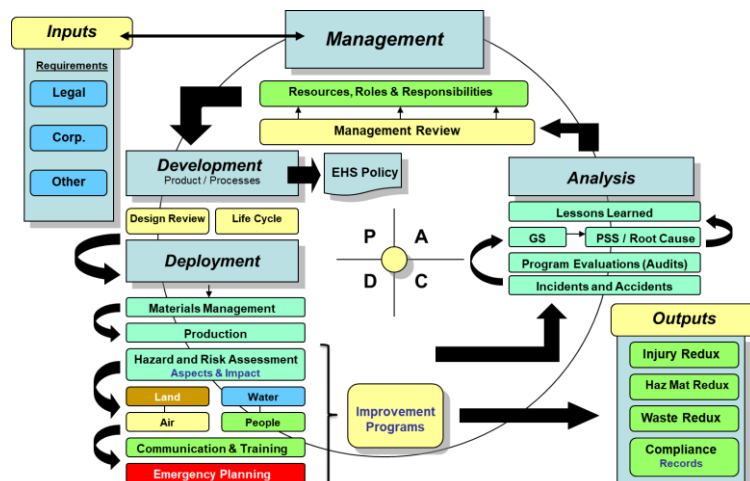


Q D P C, oh and S

5S + 1 = 6S

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EH&S Process Interactions



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EH&S Process Interactions



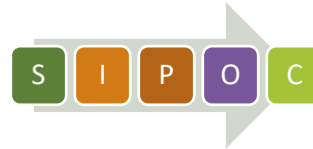
Play and Picture the Process -

A process map takes the process description to a whole new level of understanding. Where verbal descriptions provide the basis of the process, the map identifies the flow of each event in a process.



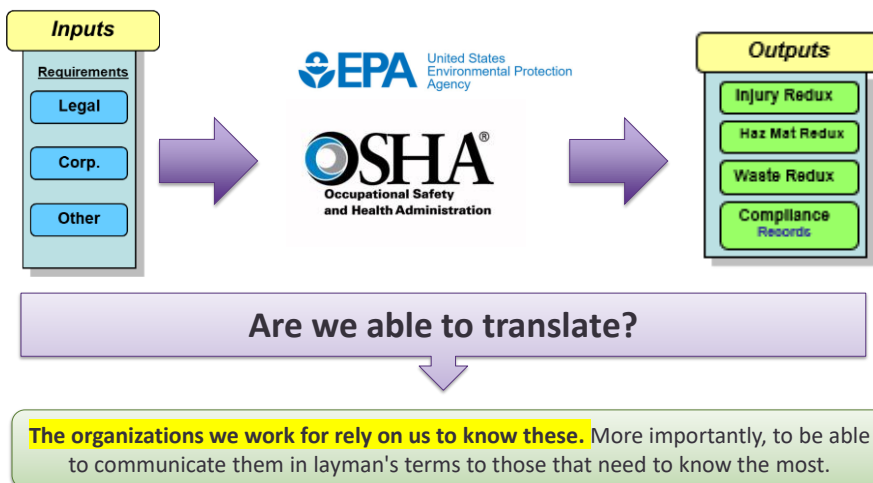
Prod the Process –

“Do we still do that?” or “Why does X happen there?” or “Why are we doing it that way?”



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Understanding the Requirements



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Establishing Standards



STANDARDS

WHAT

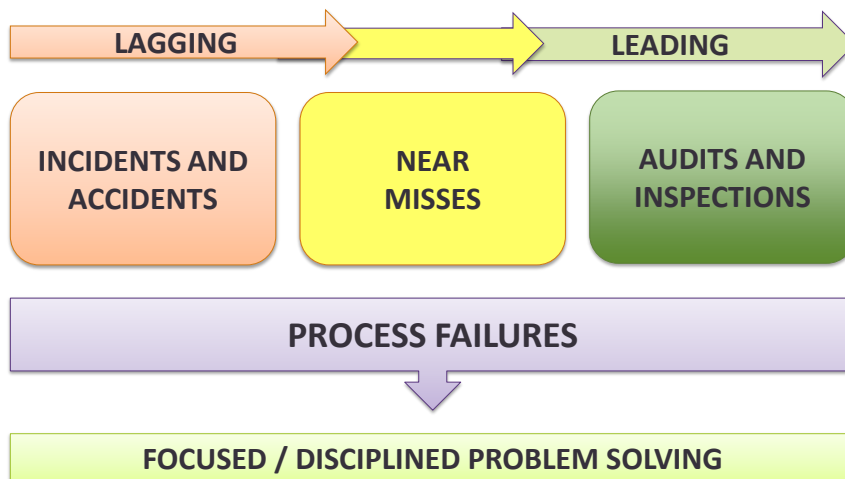
Standard Conditions and Behaviors per regulations is the first step in establishing organizational expectations...and being able to clearly communicate these to the masses who benefit from them, i.e. zero incidents!

HOW

Standardized Work is one of the most powerful but least used lean tools. By documenting the current best practice, standardized work forms the baseline for kaizen or continuous improvement. As the standard is improved, the new standard becomes the baseline for further improvements, and so on.

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Identifying Potential Problems



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Problem Solving



- Defining the problem correctly
- Using Appropriate Root Cause
 - Five Whys
 - FMEA
 - Fault Tree
 - Fishbone
 - Current Reality Tree

IS THIS PROCESS WORKING EFFECTIVELY IN YOUR ORGANIZATION?

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ENVIRONMENTAL, HEALTH AND SAFETY SOLUTIONS

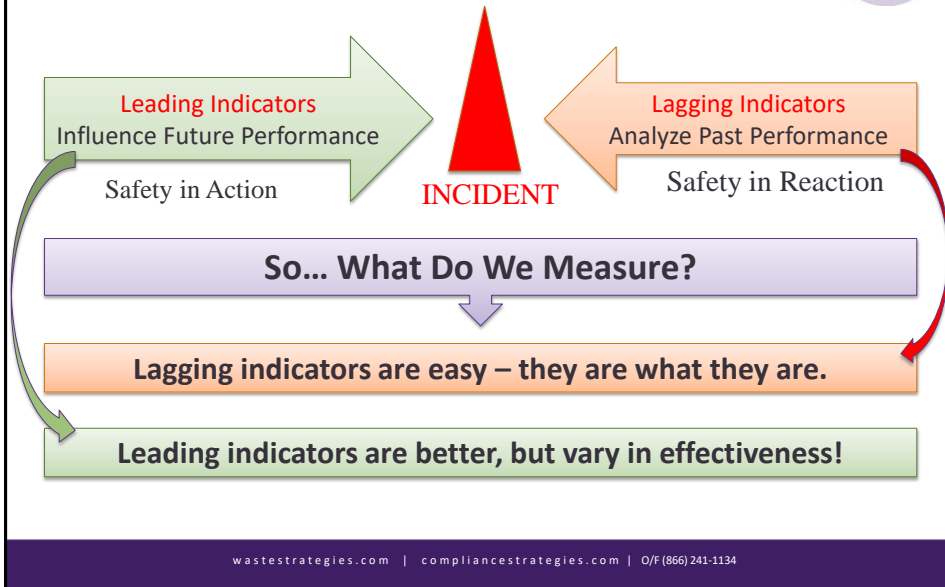
PROBLEM SOLVING SHEET

Issued By: _____		Dept: _____	Date: _____	Fwd To: _____		Type (Circle):		S	Q	D	P	C
Where Did the Problem Occur (Exact Location)?				Corrective and Preventive Actions								
When Did the Problem Occur (Date and Time)?				Who Due Complete								
Describe the Degree of Loss (Injury, Equipment/Property Damage, Malfunction, etc.)				1)								
Describe the Problem Based on Facts from Your 'Go See' and Information Above:				2)								
Containment Measures Taken?				3)								
1) To Protect Employees or Customer:				4)								
2) To Restore Safe Quality Flow of Product or Material:				** Can We Error Proof? ** Can We Implement One Corrective Action Immediately?								
Does the Problem Violate Regulatory Stds or Company Policy: YES NO				Is This PSS Leverageable Across Other Areas: YES NO								
Find the Root Cause (Ask Why 5 Times, Final Why Should be a Tool or Method)				Verify the Solution (Visualize Recurrence of the Problem)								
Why?		Because:		Occurrences Time								
Why?		Because:										
Why?		Because:										
Why?		Because:										
Why?		Because:										
Verification That the PSS is Complete:				Lead Sign Off: _____ Date: _____								

** Work Back up saying "therefore" until you get to the problem description. Does it make sense?

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Measuring Performance



Measuring Performance



EH&S Leading Indicators



Measuring Performance



Is Hazardous Materials Management
Part of Your EH&S Program?



Is your EH&S Program Part of
Your Operating Model?

In order to integrate and sustain you **MUST** ensure that
processes are in place to support the things you are tracking!

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In Summary



Mind Your P's

- 1 • Know Your **P**rocesses
- 2 • Know How You Can Get **P**inched
- 3 • Know Your **P**roblem Solving Methods
- 4 • Know How to Measure **P**erformance

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QUESTIONS / DISCUSSION

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