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CoreMedia Training Solutions, Inc.
1732 NW Quimby Street | Suite 100
Portland, Oregon 97209

800 537-8352 | www.cmts.com



Integrating Lean Six Sigma With your Safety Program

Presenter:
Mike Williamsen, Ph.D.

www.coremediasafety.com

Integrating Lean Six Sigma with your Safety Program Workshop

Agenda

- What is important to your organization
- Safety Culture Models
- The Safety Perception Survey
- 6 sigma-kaizen case study
 - ◆ Engagement realities
 - ◆ Safety Processes
 - Optimization
 - Control
- Wrap

What is a Safety Culture?

How We Lead

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**What is important
to your organization?**

The Difficulty of Change

Change is not easy. Creating a culture change requires organizations to make safety an internal value, one that underlies every activity.

- Create dissatisfaction with the status quo
- Educate all personnel in safety accountability
- Gain management's commitment
- Commit yourself and your organization to the change process.

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Insights into Effective Safety Management

Why Safety programs Don't Work

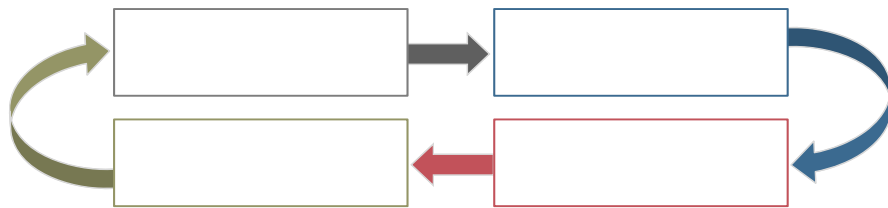
- No magic solutions
- Safety is a priority, not a value
- Communication and Motivation
- Boring bolt-ons
 - ◆ Training
 - ◆ Rules
 - ◆ Inspections
 - ◆ Safety meetings
- Tradition

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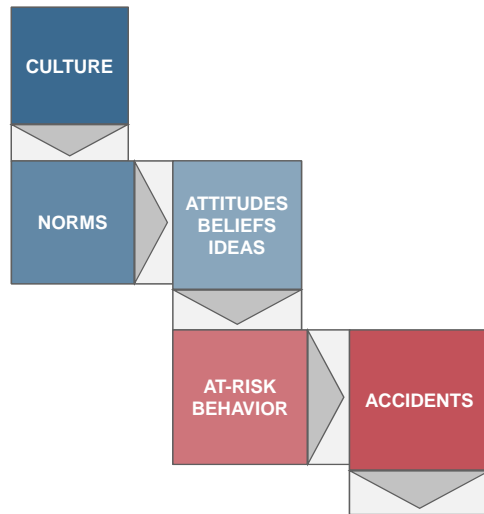
Incident Reaction Cycle



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Root Cause of "Accidents"



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The Heinrich Triangle



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Discipline

Training which corrects, molds, strengthens, or perfects.



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Six Criteria for Safety Excellence

- Top management is visibly committed
- Middle management is actively involved
- Supervision is performance-focused
- Hourly employees are actively participating
- System is flexible to accommodate site culture
- Safety system is positively perceived by workforce

— Dan Petersen Ed.D.

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What makes a difference in safety?

Level One Tools – Reacting | 10 to 20 TIF, 5 LTIF

Compliance Programs, Work Orders, Incident Investigation, Safety Meetings
40+ year old technology

Level Two Tools – What We See | 3 to 9 TIF, 1 LTIF

Observation Programs, Job Safety Analysis, Near-Miss Reporting, Inspections
30+ year old technology

Level Three Tools – What We Do | 1 to 2 TIF, 0.1 LTIF

Safety Accountability Systems
20 year old technology

Level Four Tools – What We Believe | 0.5 to 0.9 TIF, 0 LTIF

Unseen cultural reality
5 year old technology

Level Five Tools – How We Engage | 0.2 to 0.4 TIF, 0 LTIF

Effective data-driven safety teams
Current technology

Level Six Tools – How We Lead | Less than 0.2 TIF, 0 LTIF

Culture in action: participation, ownership, execution, live a passion for safety excellence
Current technology

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21 Safety Management “Culture” Indicators

Accident Investigation	Involvement of Employees
Alcohol and Drug Abuse	Management Credibility
Attitude Towards Safety	New Employees
Awareness Programs	Operating Procedures
Communication	Quality of Supervision
Discipline	Recognition of Performance
Employee Training	Safety Climate
Goals for Safety Performance	Safety Contacts
Hazard Correction	Stress
Inspections	Supervisor Training
	Support for Safety

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The results are in. Now what?
Safety Perception Survey Key Findings

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**“You want the truth?
You can’t handle the truth!”**

- Jack Nicholson ‘A Few Good Men’

21 Safety Culture Indicators

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Results by Category

Category Results Summary

Category	Percent Positive		
	Enlisted	NCO	Officer
Inspections	56.2	69.0	77.5
Recognition for Performance	58.5	61.9	42.4
Alcohol & Drug Abuse	59.8	54.6	43.8
Operating Procedures	60.9	60.0	71.4



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“Bottom Ten” Categories = Areas for Potential Concern

Summary Results

Category	The Bottom 10 Categories for each of the organizational levels				
	Company Composite Average Hourly Score	Global Database Average All Hourly Takers	Enlisted 167	NCO 5	Officer 7
Inspections	56.2	60.0	1	5	
Recognition of Performance	58.5	56.9	2	3	1
Alcohol & Drug Abuse	59.8	63.7	3	1	2



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Results to Specific Questions

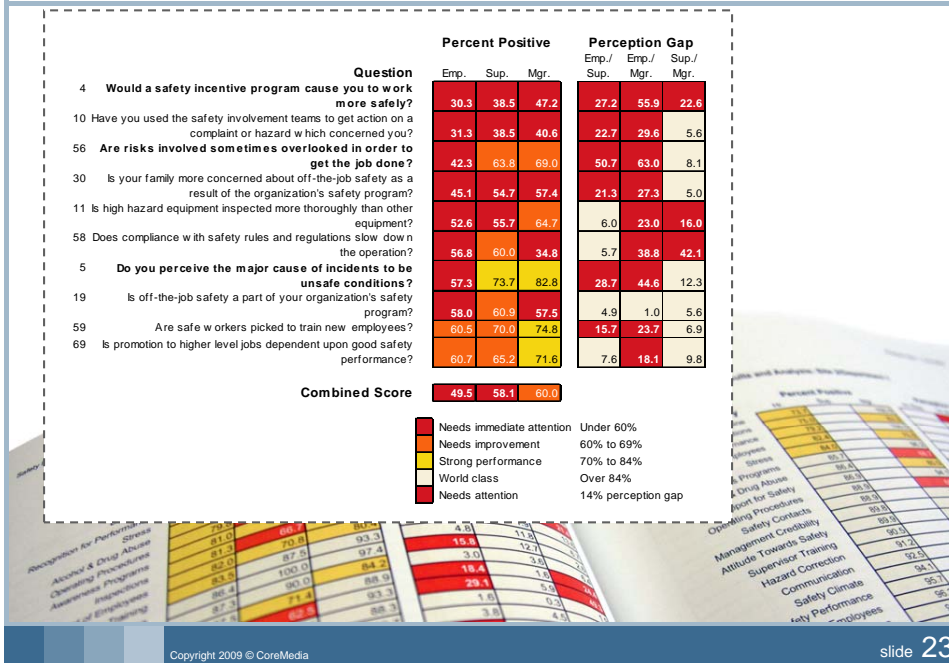
Question Summary Results

Question	Percent Positive		
	Emp.	Sup.	Mgr.
37 Do you think your organization seeks prompt correction of problems found during inspections?	49.0	50.0	57.1
52 Do you have problems obtaining support for the correction of hazardous conditions?	51.0	60.0	71.4
14 Are records kept of potential hazards found during inspections?	64.4	100.0	100.0



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Bottom 10 Non-Stress Questions



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Initiating Continuous Improvement

- Continuous improvement teams that include all levels of employees in 90-day projects
- Teams are trained to conduct meetings using a POP Statement
- Track team performance using an Action Item Matrix
- Management, Supervisors, and Employee Training
- Focus on error proofing 3-5 proven safety processes
- Repeat the process

Effective Continuous Improvement Team Meetings

Putting Goals into Action

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POP – The Start of Every Meeting



Action Item Matrix | Key Components

- Tasks/Action Items
- Team Members
- Targeted Delivery

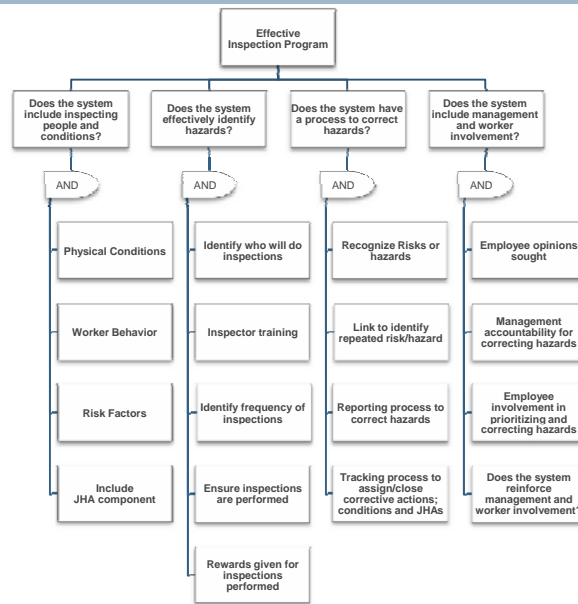
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Purpose, Outcome, Process

Inspection Continuous Improvement Team POP Statement

Date	10/11/07		
Purpose	Develop a comprehensive inspection system that identifies all hazards to help us achieve zero injuries.		
Outcomes	Rank		Comments
	C	A training program set-up by EHS for the new inspection system	Not Applicable
	A	Gather existing check lists	Yes- 8/8
	A	Team reviews existing check lists & decided to leave them be	Yes
	C	Develop the system- present to Management for critique and approval	On going
	B	Develop inspection accountabilities for all levels (in Policy Statement)	Yes- 8/15

Fault Tree



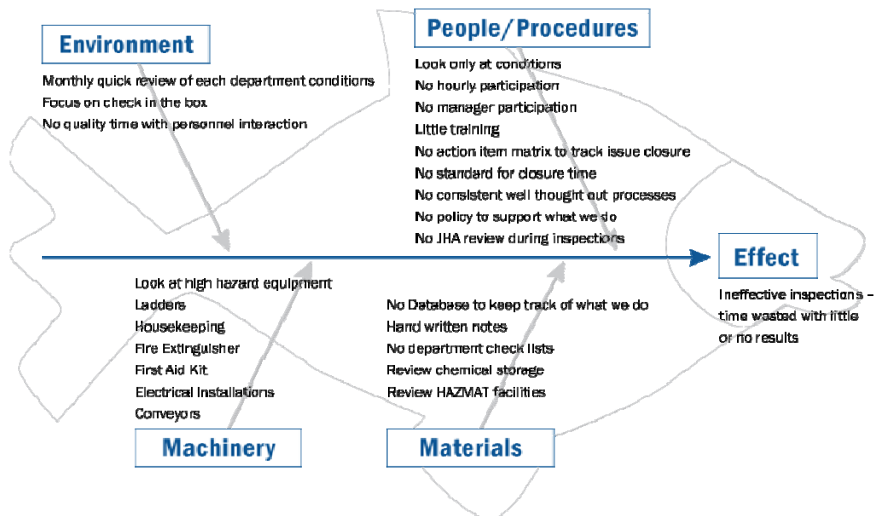
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Cause & Effect



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Action Item Matrix

Inspection Continuous Improvement Team Follow-up AIM

7/4/07

Members in attendance: Robert, Richard, Frank, Chad, Cathy, Steve, Mark

	ACTION ITEM	WHO	TARGET DATE	X	COMMENTS
1	Next meeting 8/1 at 1 pm. Reserve a room-Mead 1	Norm	7/27	X	Done
2	Type notes & prioritize outcomes	Frank	Before 8/1	X	Notes typed. Items prioritized 8/1
3	Review flip chart (figure out hard to read words)	Team	8/1	X	Done- 8/8
4	Team Leader/Facilitator	TBD on 8/1	8/1	X	Norm- Team Leader, Frank- Secretary
5	Finish off action item matrix		On going		
6	Develop physical inspection for each dept				
7	Develop personnel inspection for each dept				
8	Get other assistance for inspection				
9	Develop our process for doing this inspection/ flow chart	Steve Ross- draft flow chart	8/15	X	Done- team reviewed "fault-tree"
10	Bring up to 3 inspection sheets used in your department or area	All Team Members	8/8	X	Done
11	Review inspection sheets- ck for dis/similarities, redundancy, good info for future use etc?	Frank	8/15	X	Inspection sheets from different dept are "all over the map"

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Begin with the end in mind?

What is the difference in approaches to achieving global excellence in:

- Productivity
- Quality
- Customer Service
- Safety

THERE IS NO DIFFERENCE!

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Tools used to develop outcomes: Complaint = Goal

- Use the survey results, ask why employees scored certain questions low and others high.
- Use the completed fishbone diagram
- What current activities do we have that need improvement or lack accountability?
- These items become the “COMPLAINTS.”
- Turn these complaints to “GOALS” via the AIM
- The goal is to come up with solutions to the complaint, that employees can believe in using:
 - ♦ The Six Criteria for Safety Excellence as the filter.
 - ♦ The Four-step Accountability model as the driving force to implement the solution.

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Tasks

Which ones to tackle, which ones to avoid

- Volunteer Principle
- Pareto Voting
 - ♦ Complaint = Goal
 - ♦ World Hunger
- Diverge – Converge

How Do You Choose What to Work On?

Setting your priorities

- High Impact
- Low Cost
- Lay Downs

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How Many Teams?

- As many as possible, but...start small and do them well
- Short Term – 90 Day Teams
 - ◆ Effective Facilitation
 - ◆ Effective Leadership
 - ◆ Effective Closure

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How Often Do They Meet?

- Every two weeks
- Sub-teams to meet as needed



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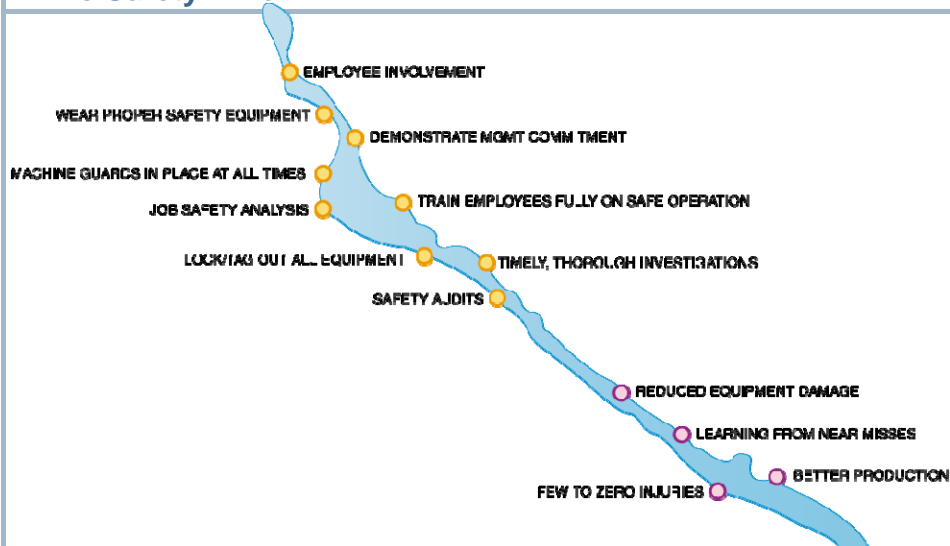
What is a safety culture?

What is safety culture?

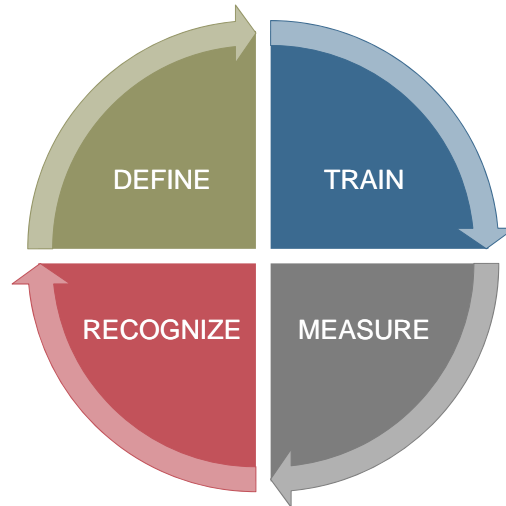
Culture lives in how you do things. Safety culture is your walk, your talk, your actions, your beliefs . . . it's what you do without even thinking about it.

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The Safety River



Four Steps to Accountability



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The Solution

Develop safety accountabilities that are:

- Appropriate
- Measurable
- Meaningful

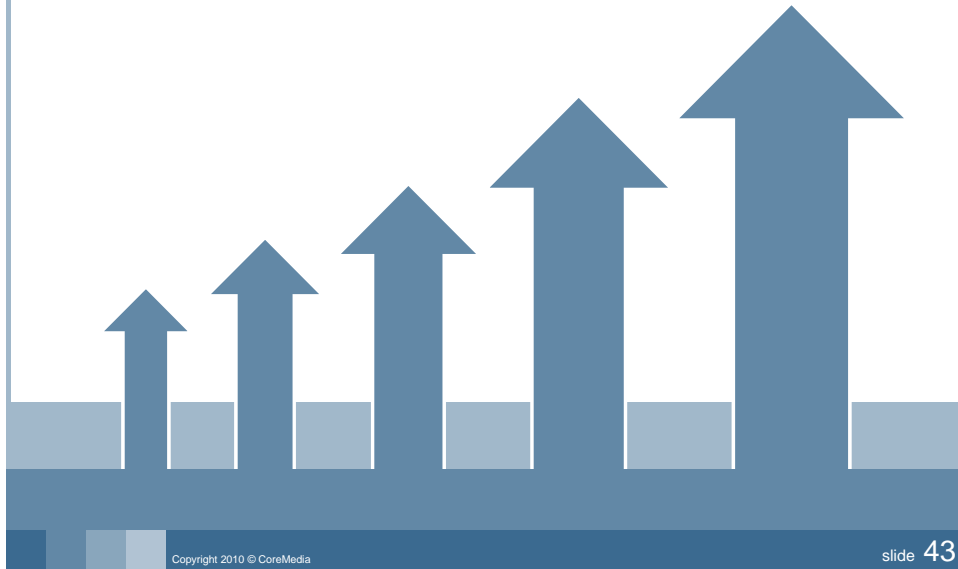
Keep in mind:

**“THE MINIMUM LEVEL OF EXPECTATION
BECOMES THE MAXIMUM LEVEL OF PERFORMANCE.”**

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Success Breeds Success



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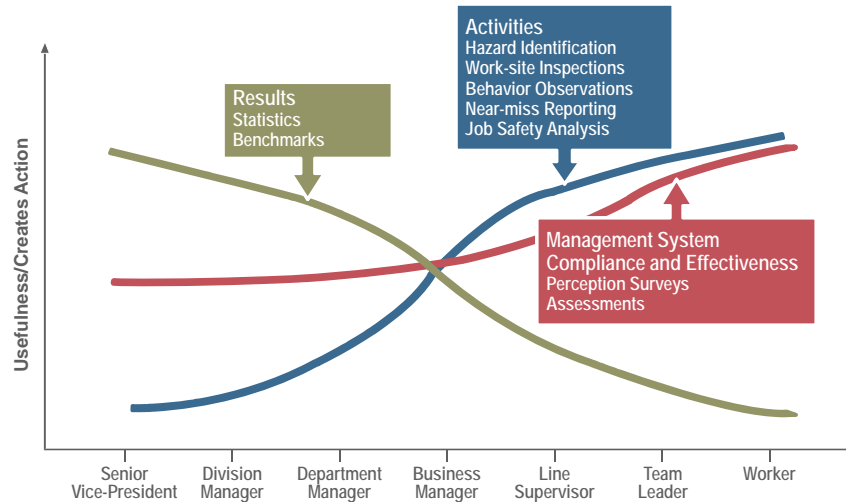
Upstream Activities Drive Downstream Results

- Error-proof your processes
- Hold your people accountable for daily activities that deliver results
- Develop total personnel involvement in continuous improvement
- Perfect practice makes perfect performance

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Measurement Model



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Role of Upper Management

- Exhibits visible commitment to safety
- Supports change through leadership
 - ◆ Knowledge of safety-change initiative
 - ◆ Resources
 - ◆ Follows up on accountabilities
 - ◆ Recognizes accountability performance at all levels
- Follows all safety procedures appropriate to project
- Makes one-on-one contacts in the field
- Provides effective feedback
- Lives a passion for six-sigma performance

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Foundation for Excellence

Involve safety leaders from all levels of the organization in Continual Improvement teams that relentlessly pursue

1. Foundational safety processes
2. Root cause incident resolution
3. Accountabilities at all levels

All personnel take responsibility for executing leading indicator accountabilities that result from items 1, 2, 3

These are their personal performance metrics

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Organizational Change – Success/Failure Points

- **Complacency** - Have we created an adequate sense of urgency?
- **Guiding Coalition** - Have we identified the appropriate leadership coalition? (must contain both leaders and managers)
- **Underestimating the Power of Vision** - Is it concise and direct, aligned and inspiring? (inarguable, desirable, feasible, focused, flexible, and communicable)
- **Under-communicating the vision** - Do we communicate powerfully and often, both in words and deeds?
- **Permitting obstacles to block the vision** - Have we identified possible blockers and a plan to deal with them (management systems, individuals)?
- **Failing to create short-term wins** - Have we created rather than hoped for opportunities to celebrate and keep employees focused?
- **Declaring victory too soon** - Are we coasting after completing the first major project? REAL, lasting change is slow to occur.

— John Kotter | Harvard Business School

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Building A Zero Incident Safety Culture

A Long-Term Process, like building a winning team.....

- Perfect the fundamentals and the “plays”
- Develop the individual and team skills
- Engage all team members
- Focus on excellence every day in all that you and your team does



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Next Steps

Perform a statistically valid baseline safety survey

Strategic Planning

- Leadership group decides the focus and timing

Develop Processes

- Optimize the Safety Management Processes that deliver a “zero culture” using Cross Functional Continual Improvement Teams

Build Leadership

- Accountability, Continuous Improvement, Job Skills training

Increase Participation

- Continuous Improvement focus teams on strategic issues
- Consistent processes across all business units
- “Hourly CEOs” at all work cells
- A relentless pursuit of a zero injury safety culture

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