

EHS Excellence through Short-Term & Long-Term Planning

Raymond A Kovacs
Global EHS Leader
(former member of LCSC)

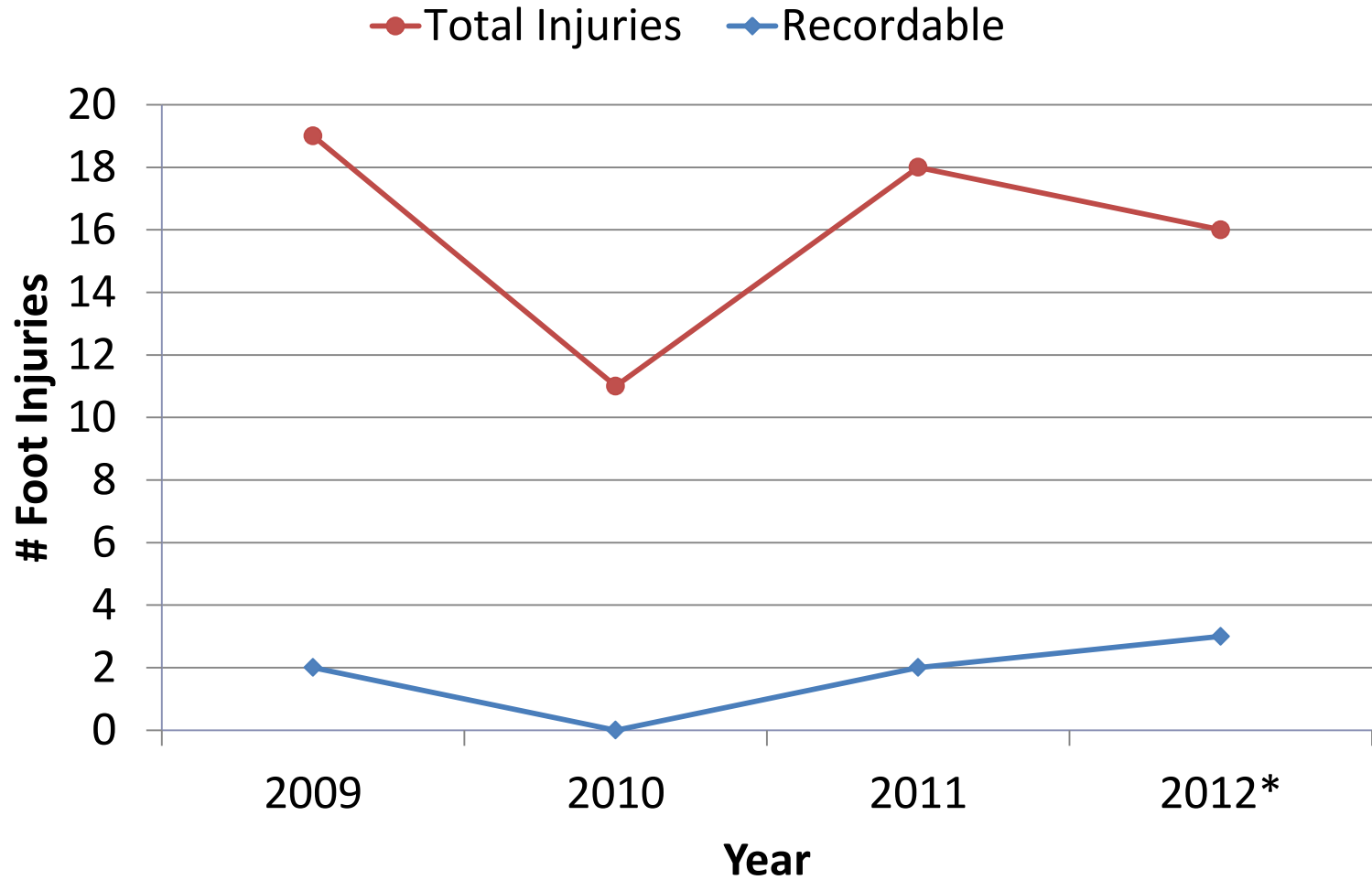
Disclaimer



EHS Incident Definitions

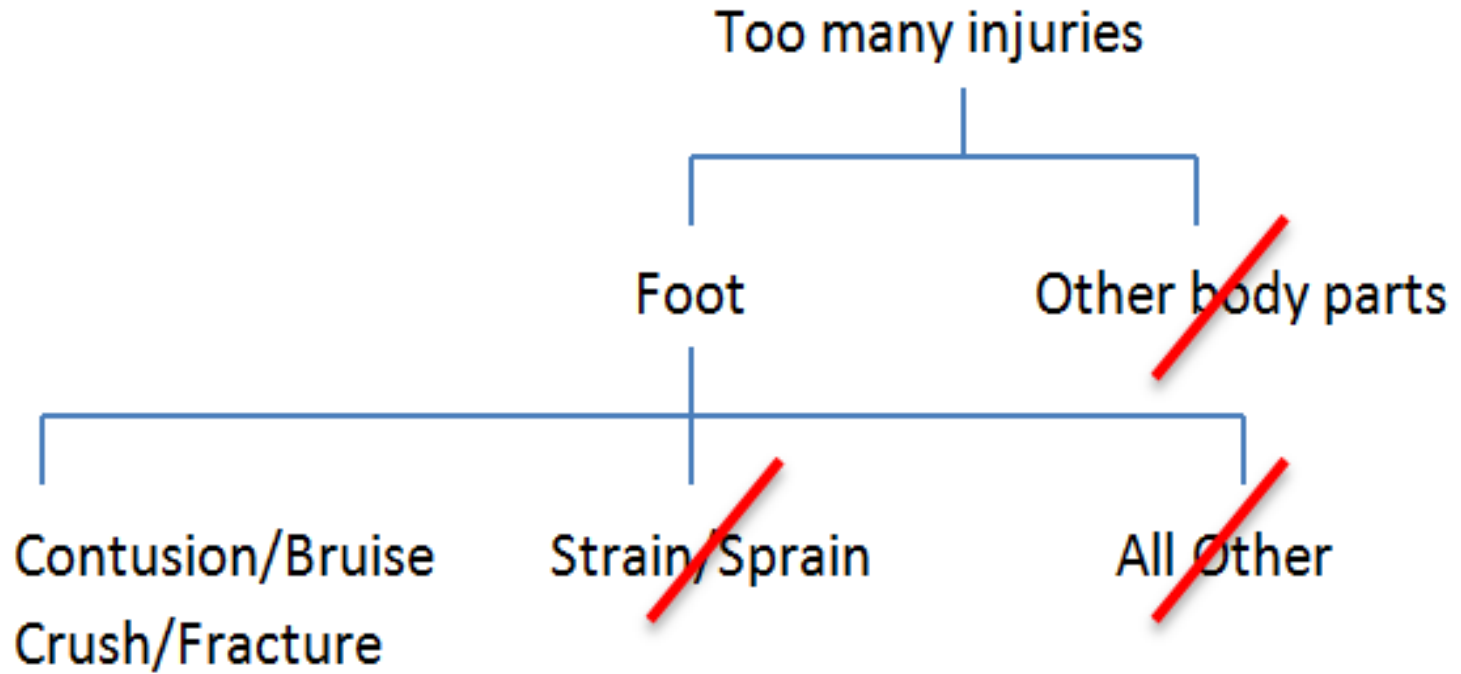
- Events
 - Day to day occurrences
 - Cause & Effect
 - Weld wire pokes, weld flash, PPE deficiencies
- Trends – Over Time
 - Compilation of Incidents
 - Can be Driven by Cultural Impacts & Deficiencies

Foot Injuries by Year



*2012 data through Q3

Injury Evaluation





Conventional Approach

- Event Driven
 - Day to day occurrences
 - Cause & Effect
 - Incident Investigation

Digression

- Human & Organizational Performance
- Incidents are caused by the absence of defenses
- Incident Investigation Tool
 - Strength of Defense Matrix

Strength of Defenses Matrix - Defenses

| TYPE Purpose | Engineered Defenses | Admin Defenses | Management Oversight Defenses | Personal Protective Equipment | Cultural Defenses |
|---|---|---|--|---|---|
| Eliminate (substitute) Task / Operation | How could you <u>modify the design</u> to make the process safer? | What ways could the risk to the employee or the environment be reduced? How to <u>eliminate unwise use</u> ? | What <u>third party actions</u> could reduce employee or environmental risk? |  | What defenses have developed over time as a result of <u>organizational</u> attitudes and customs? |
| Prevent Error | How could you <u>modify the design</u> to make the process safer? | What ways could the risk to the employee or the environment be reduced? How to <u>eliminate unwise use</u> ? | What <u>third party actions</u> could reduce employee or environmental risk? |  | What defenses have developed over time as a result of <u>organizational</u> attitudes and customs? |
| Catch Error | <ul style="list-style-type: none"> - Guards - Alarms - Interlocks - Venting - Keys | <ul style="list-style-type: none"> - Policies - Procedures - Work Instructions - Checklists - Color coding - Training | <ul style="list-style-type: none"> - Audits - Permission - Supervision - Feedback - Inspections - Permit to work | <ul style="list-style-type: none"> - <u>Cover and protect</u> a worker's body from hazards | <ul style="list-style-type: none"> - Priorities - Cardinal Rules - Value System - Housekeeping - Stop Work |
| Detect Defect | <ul style="list-style-type: none"> - Containment - Shielding | <ul style="list-style-type: none"> - Checklists - Color coding - Training | <ul style="list-style-type: none"> - Inspections - Permit to work | <ul style="list-style-type: none"> - Face shields - Bump caps - Gloves | <ul style="list-style-type: none"> - Housekeeping - Stop Work |
| Mitigate Harm | (Empty cell) | (Empty cell) | (Empty cell) | (Empty cell) | (Empty cell) |

Strength of Defenses Matrix - Purposes

| Type PURPOSE | Engineered Defenses | Admin Defenses | Management Oversight Defenses | Personal Protective Equipment | Cultural Defenses |
|---|---|----------------|-------------------------------|-------------------------------|-------------------|
| Eliminate (substitute) Task / Operation | Get rid of the opportunities for error and exposure to risk | | | | |
| Prevent Error | Find ways to avoid risky actions or conditions | | | | |
| Catch Error | How to discover and correct improper actions or conditions | | | | |
| Detect Defect | Show how to discover defects before the situation gets out of control | | | | |
| Mitigate Harm | Actions that lessen the severity of the effects | | | | |

Example Strength of Defenses Matrix

Assumption: Most foot injuries occur from similar work stations where parts fall during handling

| Type Purpose | Engineered Defenses | Admin Defenses | Management Oversight Defenses | Personal Protective Equipment | Cultural Defenses |
|---|---|---|-------------------------------|-------------------------------|------------------------------------|
| Eliminate (substitute) Task / Operation | | | | [Hatched Pattern] | |
| Prevent Error | Parts difficult to handle - Install assisted lift devices | Part is designated as two person lift due to length/ weight of part | | [Hatched Pattern] | Unease of employee to ask for help |
| Catch Error | | Incoming material will be immediately delivered to work station | | PPE – Metatarsals | Stop Work |
| Detect Defect | | | | | |
| Mitigate Harm | | Notification of concerns/near misses to EHS | | | |

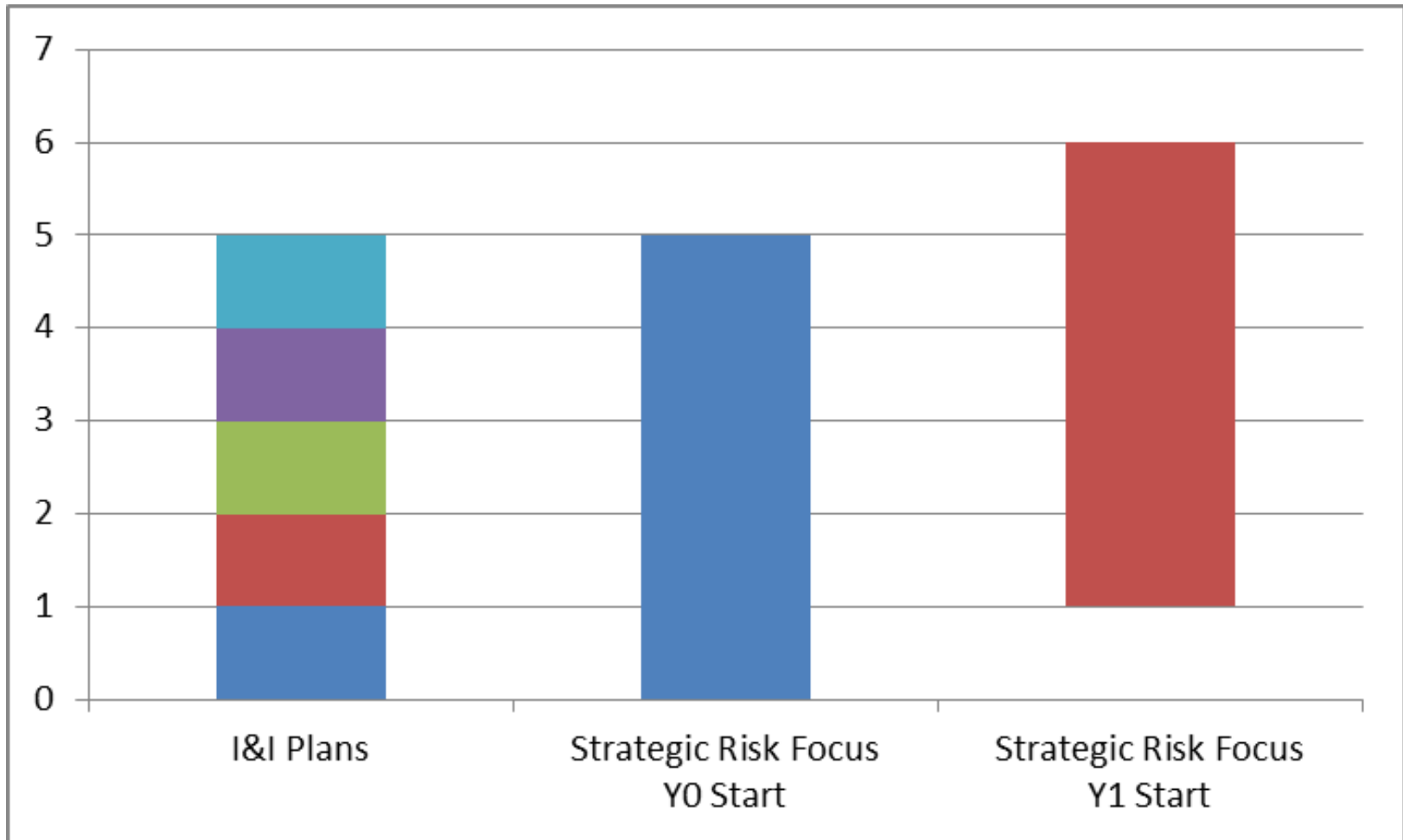
Conventional Approach

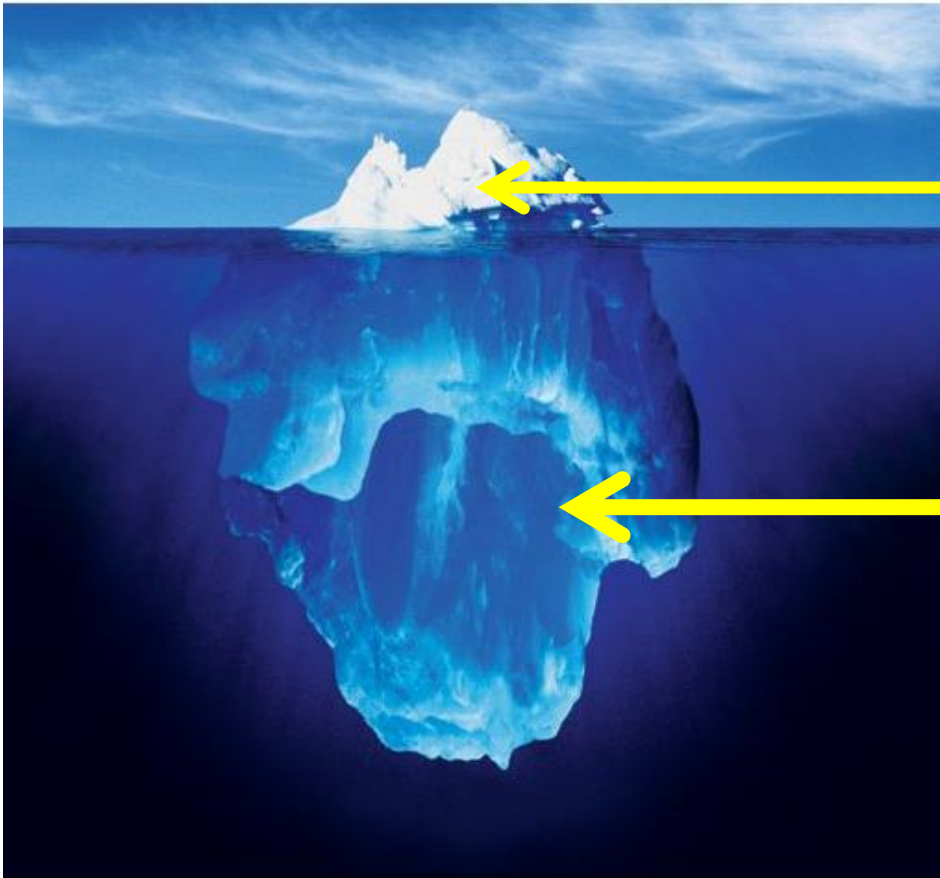
- Incident Follow-Up Post Investigation
- Will this be a good solution???
- I.e., Injury & Illness Reduction Plan
 - Short-Term Plan
 - Recovery Plan
- Impact?
 - Cause -> Corrective Action
- Issue?
 - None

Is this enough?



Tactical I&I Plan + Strategic Risk Focus





Day to Day Incidents

Below the Surface

- Trends – Why??
- Cultural Issues??
 - Leadership
 - Accountability
 - Communication
 - Employee Involvement
- Behavioral Issues?
- Getting into detail

Process for Long-Term Success

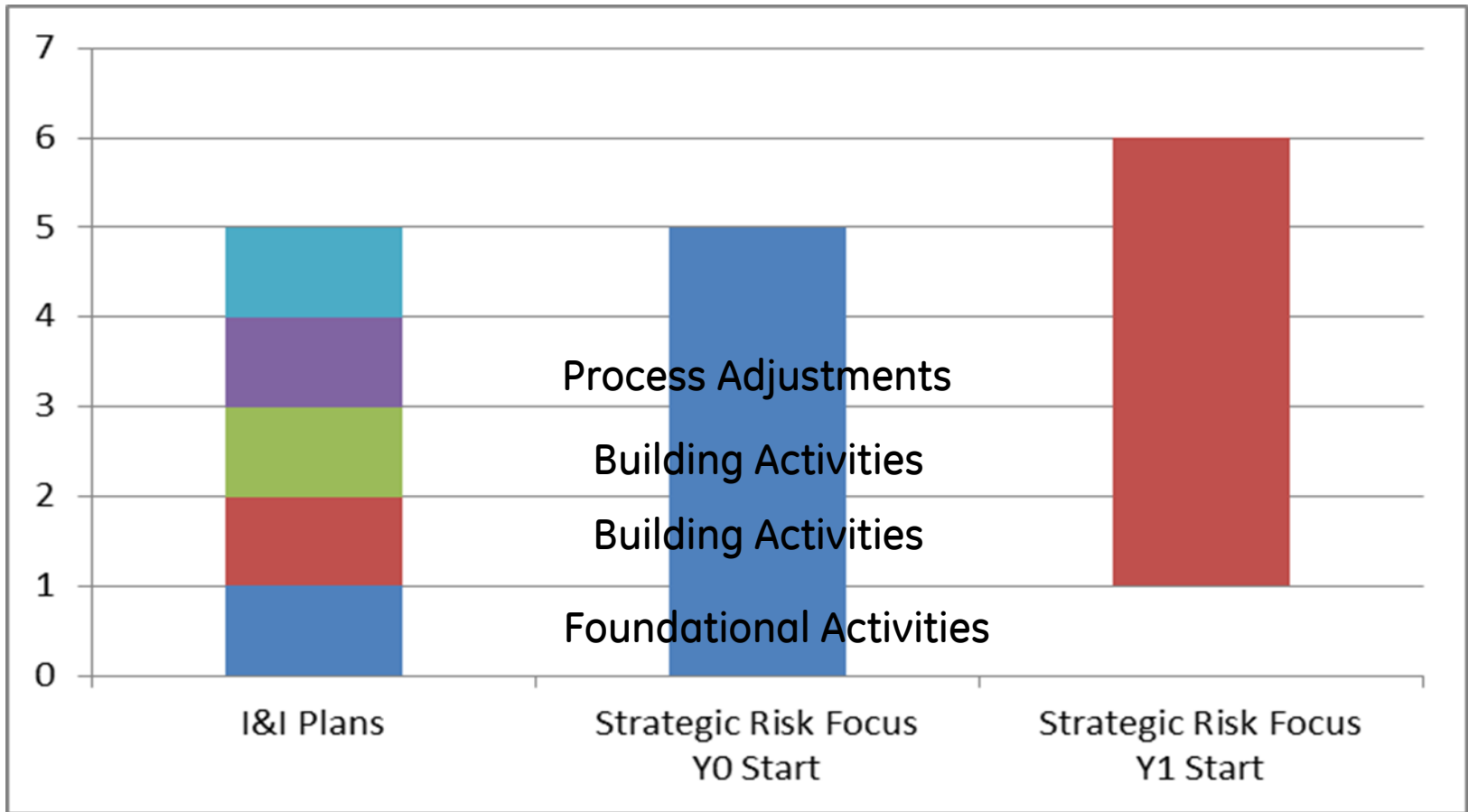
1. Gather Inputs
2. Identify Future State Vision
3. Develop Road Map
4. Document Plan with Milestones
 - Including frequency for process, i.e., annual
5. Execute Plan
6. Gauge Success
7. Re-Plan

Process for Long-Term Success

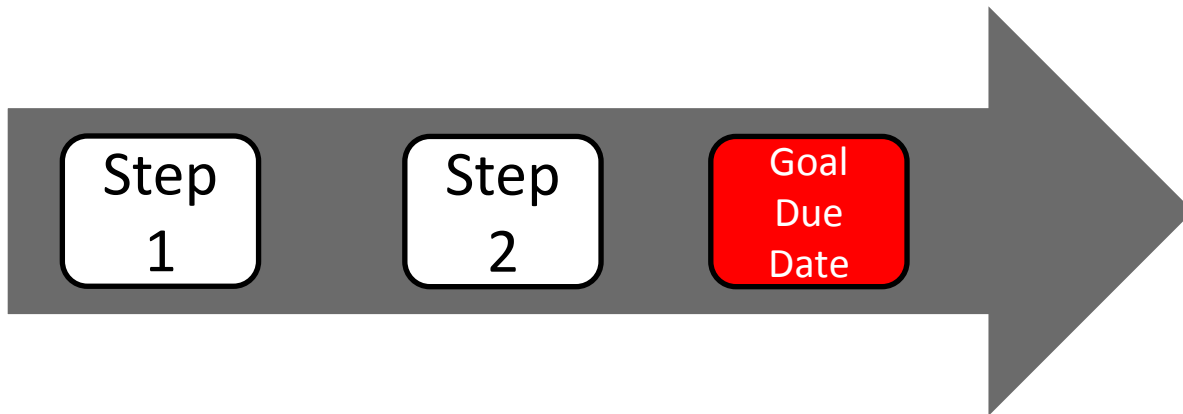
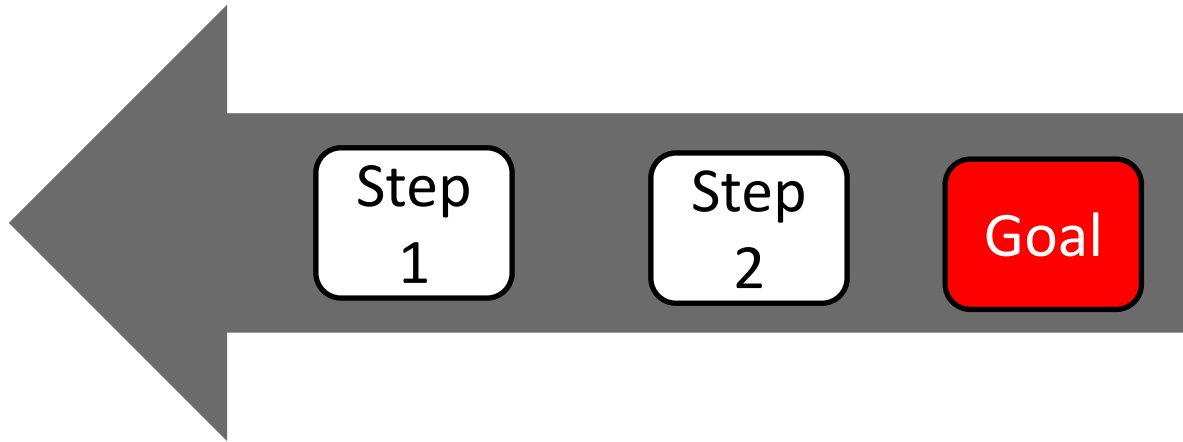
- Gather Inputs & Identify Future State Vision
 - Large Site v Small Site
 - Who
 - Where/When
 - How - Inputs
 - Incident Data – EHS
 - Culture Surveys
 - Company Expectations (i.e. FW 2.0)
 - Brainstorming – Include Partners

Process for Long-Term Success

- Develop Road Map



Plan Right to Left & Act Left to Right



Large Org. Long-Term Plan – What & How

EHS Compliance

- Operational Permit Guidance & Documentation
- FMEAs for New Processes
- Compliance Guidance & Documentation – Standard Templates & Guidance

Management Systems

- Documented business level Standards & Process for rolling out standards, systems, processes
- Audit/Inspection Evaluation
- Management of Change
- Improve EHS-Ops Connectivity

Risk Reduction

- Cultural Enhancements to Ensure EHS is a Value: Accountability, Communication, Leadership, HOP, Observations, Recognition
- I&I , HRO, Ergonomics & IH Focus
- Improved Onboarding Processes
- Process for managing Distributed Workforces
- Waste Reduction

Process for Long-Term Success

- Document Plan with Milestones
 - Large Site v Small Site

Ergonomics Milestones

| | Training | Ergo Top 10 List | Ergo Team | Risk Assessment | Interventions | Ergo Team Meetings | Ergo Leader Meetings | Audit / Metrics | Benchmarking - External |
|------------|----------|------------------|-----------|-----------------|---------------|--------------------|----------------------|-----------------|-------------------------|
| LOCATION A | Green | Green | Green | Yellow | Yellow | Yellow | | | |
| LOCATION B | Green | Green | Green | Green | Green | Green | | | |
| LOCATION C | Green | Green | Green | Green | Yellow | Green | | | |
| LOCATION D | Green | Green | Green | Green | Green | Green | | | |
| LOCATION E | Green | Green | Green | Green | Green | Green | | | |
| LOCATION F | Green | Green | Green | Green | Green | Green | | | |
| LOCATION G | Red | Green | Red | Red | Yellow | Red | | | |
| LOCATION H | Green | Green | Green | Green | Green | Green | | | |
| LOCATION I | Yellow | Yellow | Green | Yellow | Yellow | Yellow | | | |
| LOCATION J | Yellow | Yellow | Green | Yellow | Yellow | Green | | | |

Process for Long-Term Success

- Execute Plan
- Gauge Success
 - Establish Metrics
 - Lead
 - Lag
- Re-Plan – Need frequency, i.e., annual

Summary

- Sites must still handle day to day activities.
- Tactical/Reactive Strategy is not enough.
- Combine Short-Term (tactical) Plans with Long-Term (strategic) Plans for success.
 - Include partners and stakeholders.
- Don't overcomplicate the process.
- Failure to Plan is Planning to Fail
 - Even for small 30 employee locations...

Questions?