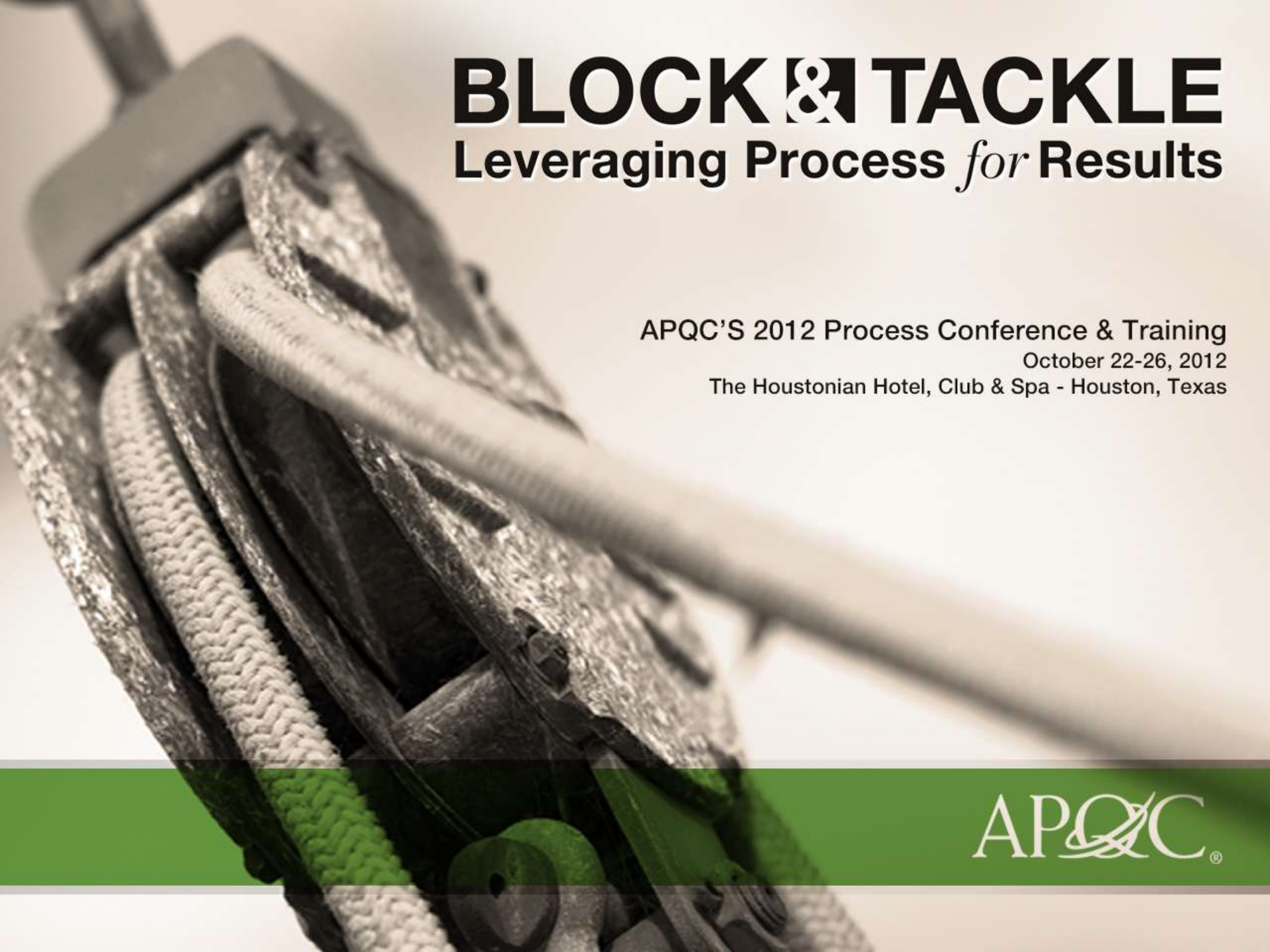


BLOCK & TACKLE

Leveraging Process *for* Results

APQC'S 2012 Process Conference & Training

October 22-26, 2012

The Houstonian Hotel, Club & Spa - Houston, Texas

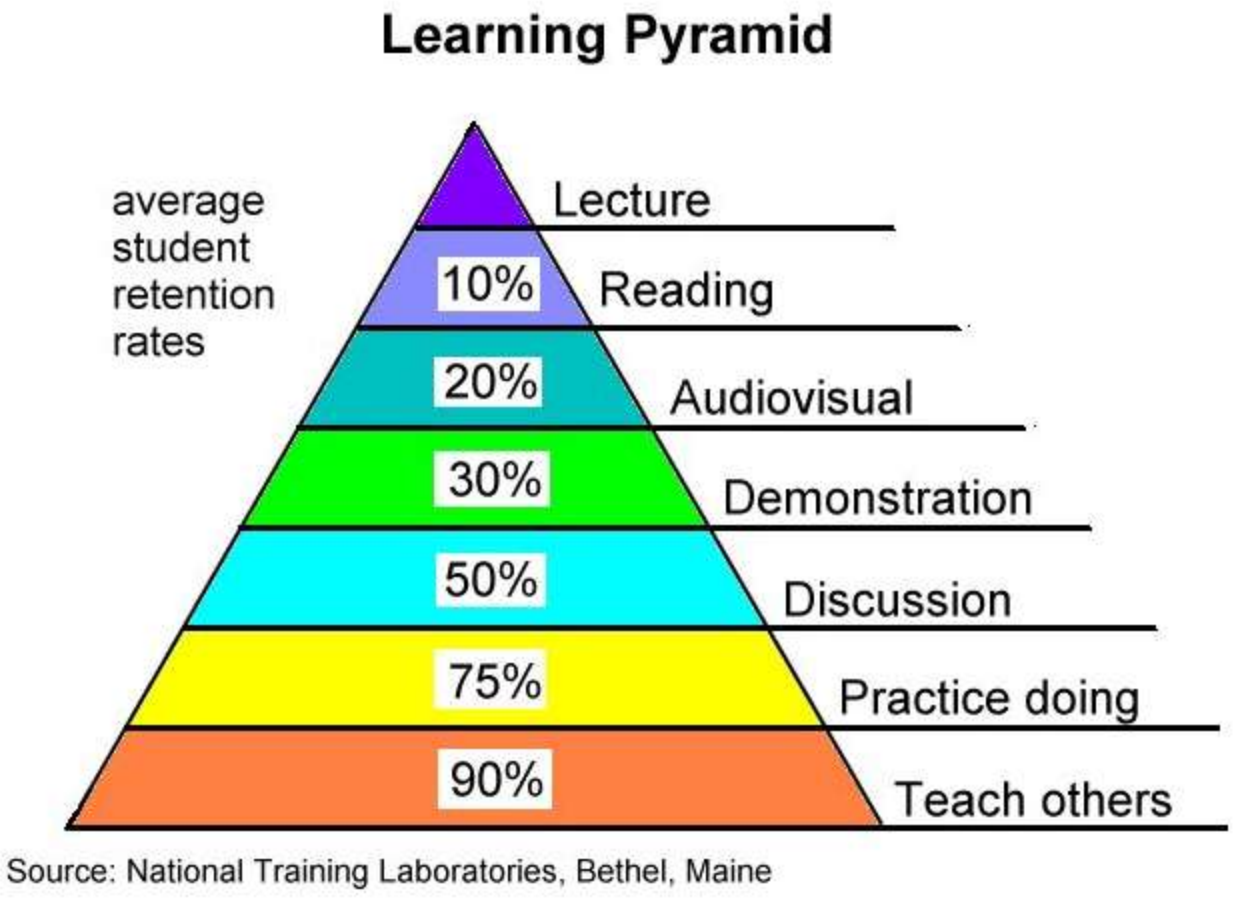
APQC®

The Blame Report

Presenters:
Tom Sheffrey
&
Ninja Hogenbirk

APQC Process Improvement Conference, October 2012

Process Improvement / Continuous Improvement



First report (Blame report)

Question asked by Management: What happened?

- Report name: Blame report
- Purpose: Inflict pain
- Focus: Yesterday
- Report creator: Witness and/or interviewer
- Difficulty (1-10) report: 1-2
- Tools: List
- Assurance not repeating: LOW

Second report (Explain report)

Question asked by Management: How did this happen?

- Report name: Explain report
- Purpose: Understand, knowledge
- Focus: Today
- Report creator: + Subject Matter Expert (SME)
- Difficulty (1-10) report: 4-5
- Tools: RCA
- Assurance not repeating: MEDIUM

Third report (Process Improvement report)

Question asked by Management: What can we learn from this?

- Report name: Process Improvement report
- Purpose: Organizational Learning
- Focus: Tomorrow
- Report creator: + Quality professional
- Difficulty (1-10) report: 9-10
- Tools: Prioritization Index,
  Theory of Change Logic Model,
  Performance Metrics
- Assurance not repeating: HIGH

Overview

3 types of CI

- Defect Elimination
- Process Elimination
- Process Improvement

4 tools for Process Improvement (PI)

- RCA
- Prioritization Worksheet
- Theory of Change Logic Model
- Performance Measurment

The project

The Bright Side of Failure

How to turn a negative experience ...

... into a positive improvement

In 50 Words Or Less

- Organizations tend to abandon failed projects too quickly, thus missing improvement opportunities.
- Four familiar tools can help identify where things went wrong and lead to process improvements.
- Those tools helped one organization learn from a failed construction project and put safeguards in place to ensure future success.

by Tom Sheffrey

THE NATURAL REACTION to failure is to distance yourself from it. After all, nobody wants to be associated with a project that fell short of expectations. But, as any good quality professional knows, failed projects can provide a mechanism for continuous improvement.

Typically, lessons learned are captured at the end of a project, but little is done to learn how to improve performance from one project to the next. By using four simple tools, it's possible to identify areas of improvement, prioritize action items, devise an action plan and measure success.

Where we begin for CI/PI…

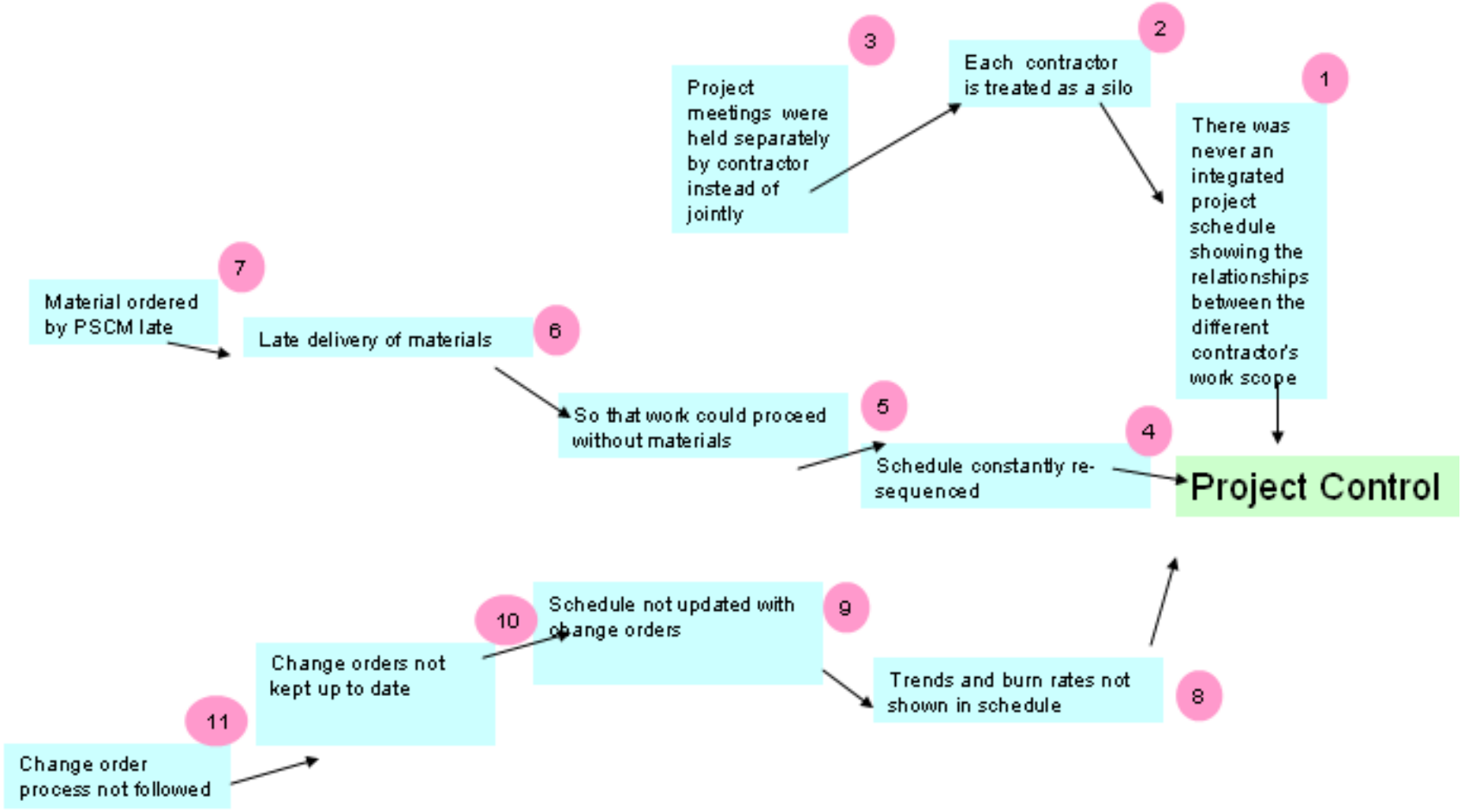
Tool 1:

RCA (Root Cause Analysis aka RCFA or the 5 Why's)

Books, papers, well-documented process

CONTINUEOUS IMPROVEMENT

PROJECT CONTROLS



What to remember about RCA for this exercise

- Don’t go beyond 5 W’s
- Not always the correct root
- Only an exercise to learn the process,
  not to be an expert on the tool
- Try to get different discipline perspectives

The next tool…

Tool 2:

Prioritization Worksheet

Purpose: to get the low hanging fruit

Prioritization Worksheet

	Antecedent Condition	Are there expertise and resources to address this condition?	Can this condition be changed with-in a quarter?	Is there a need on the slope to change this condition?	Is this condition critical to improve performance?
1	no integrated project schedule showing relationships	yes	yes	yes	yes
2	work between contractors treated as a silo	yes	yes	yes	yes
3	project meetings by contractor instead of project as a whole	yes	yes	yes	yes
4	schedule constantly re-sequenced because of material issues	no			
5	work was switched when materials did not arrive	no			
6	late delivery of materials	no			
7	material ordered by PSCM late	no			
8	trends and changes not shown in schedule	yes	yes	yes	yes
9	schedule not updated with change orders	yes	yes	yes	yes
10	change orders not kept up to date	yes	yes	yes	yes
11	change order process not followed	yes	yes	yes	yes
12					
13					
14					
15					
16					
17					
18					
19					
20					
	Becomes input to Logic Model				

What to remember about Prioritization Worksheet for this exercise

- List all antecedent conditions from RCA worksheet
- Decide column headings that are important to company
- Get a **no** in any columns for line item means stop and go to next antecedent condition.

Continue with tools…

Tool 3:

Theory of Change Logic Model

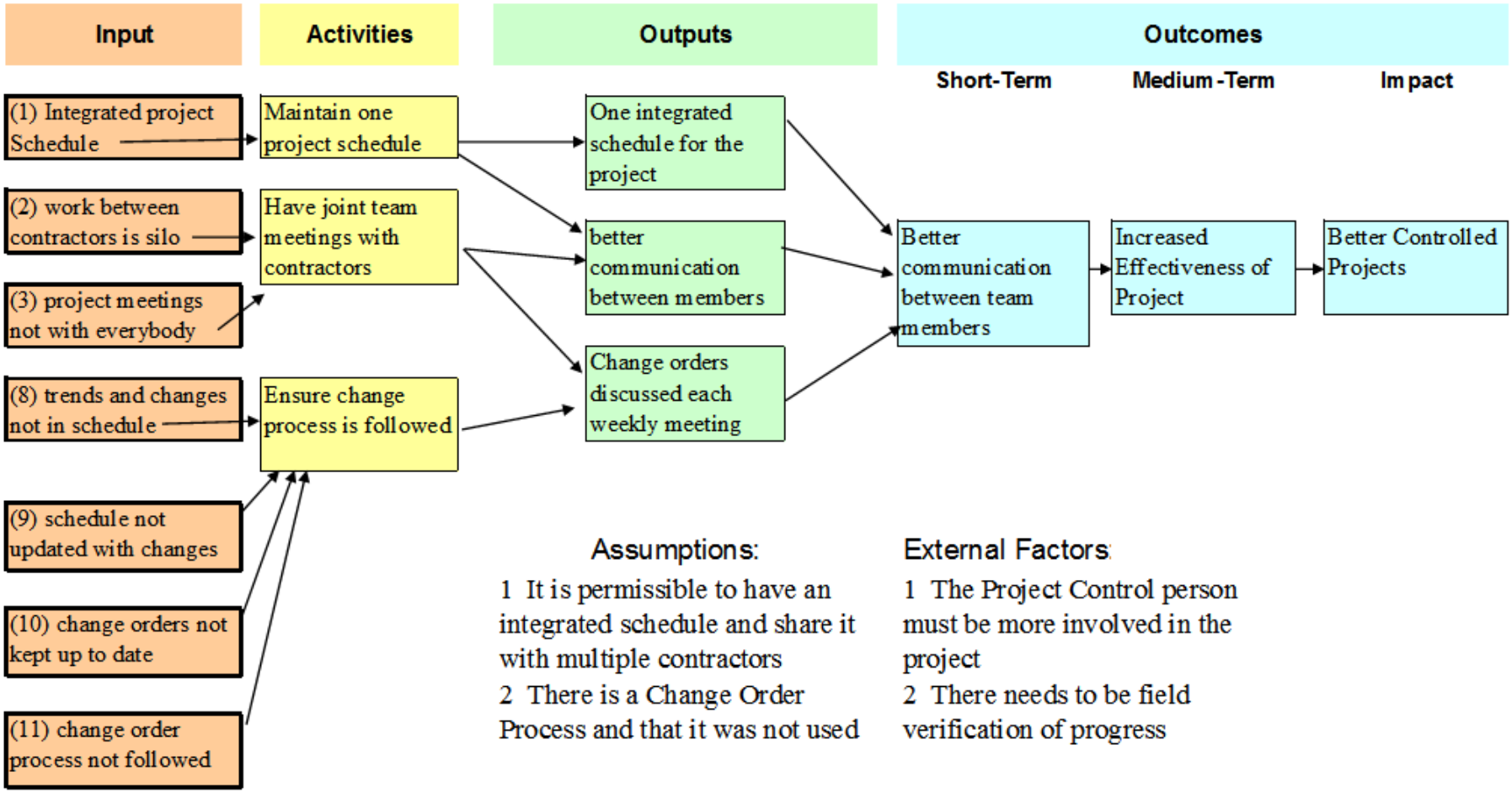
Start with Input, then define Activities.

This will lead to Outputs which then produce Outcomes.

SITUATION: ULSD Project did not perform as thought. One of the key findings pointed to Project Controls and a need to make changes

PRIORITIES: Follow Project Control Processes

Theory of Change Logic Model



Assumptions:

1 It is permissible to have an integrated schedule and share it with multiple contractors

2 There is a Change Order Process and that it was not used

External Factors:

1 The Project Control person must be more involved in the project

2 There needs to be field verification of progress

THE LAST TOOL..

.. is to develop a performance metric that is designed to change behavior.

KPI Name:	Joint Project Meetings Held	**Measurement Type (Hard/Soft):**	Hard
Summary:	Improving communications through joint meetings		
Measurement Area:	Communications	**Improvement Direction:**	Higher % indicates better performance
Collection Unit:	Project Controls	**Measurement Frequency:**	Monthly

KPI DESCRIPTION

KPI FUNCTION:

This KPI is designed strictly to evaluate the joint-project-team-meetings that are held for each project. By "joint", all team members should be present including a representative from each contractor. The meeting agenda should ensure that an updated schedule is reviewed and agreed upon and that approved and unapproved changes are reviewed.

This is a "sleeping alligator" measurement in that it is a potential warning that a project may be in jeopardy if joint meetings are not held and attended by all the parties of the team.

MEASUREMENT

Measurement Definition

3 - VERY GOOD
100 % attendance for the month

2 - ATIFACTORY
between 90% and 99%

1 - UNATIFACTORY
less than 90%

SUM.

PERFORMANCE MEASUREMENT:
This KPI is to attempt to ensure that proper communications between BP and its contractors are being made and that change orders are being communicated.

VALUE OF KPI

VALUE TO BUSINE$$:
This KPI addresses an attempt to develop better communications in a project.

WHAT MUST BE ACHIEVED:
Frequent meetings with all the stakeholders are needed to better communicate changes on the project.

PROOF OF VALUE:
There should be less confusion and greater productivity

DATA COLLECTION

COLLECTION METHOD:
The data comes from the project team meeting roster which would indicate the different stakeholders that attended the meeting.

COLLECTION $OURCE:
The project control person (typically a scheduler) would collected the information at each meeting. A sample roster is on the next page.

COLLECTION TIME:
Data can be collected and reported monthly

Meeting Roster Attendance

Project Name

Project Lead

Meeting Date	Stakeholders					Attendance Percentage
	Pjt Ctls	Engineer	Contractor A	Contractor B	HSE	
5/13/2009	√	√	√	√	√	100
5/20/2009	√	√	√		√	80
5/27/2009	√	√	√		√	80
					Total for May	260
					Average for May	87%
6/3/2009						
6/10/2009						
6/17/2009						
6/24/2009						
					Total for June	
					Average for June	
7/1/2009						
7/8/2009						
7/15/2009						
7/22/2009						
7/29/2009						
					Total for July	
					Average for July	

PROCESS IMPROVEMENT PROJECT

Involving incidents around cutting the wrong pipe

by Ninja Hogenbirk

Overview

- Impact
- Tools used
- Further research
- 7 Tenets of Process Improvement
- Change Management
- Knowledge Management
- Solution

Impact

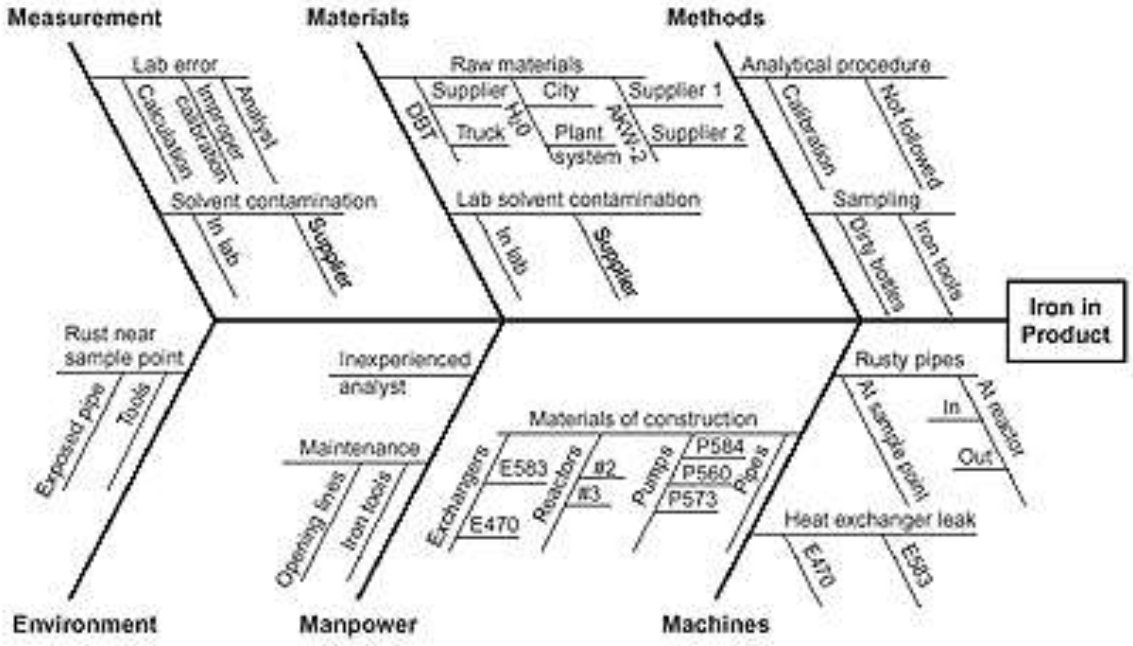
- 33 reported incidents in 18 months
- No loss of life, but loss of time and money

Tools used...

Tool 1:

Fishbone diagram

Purpose: Find cause and effect



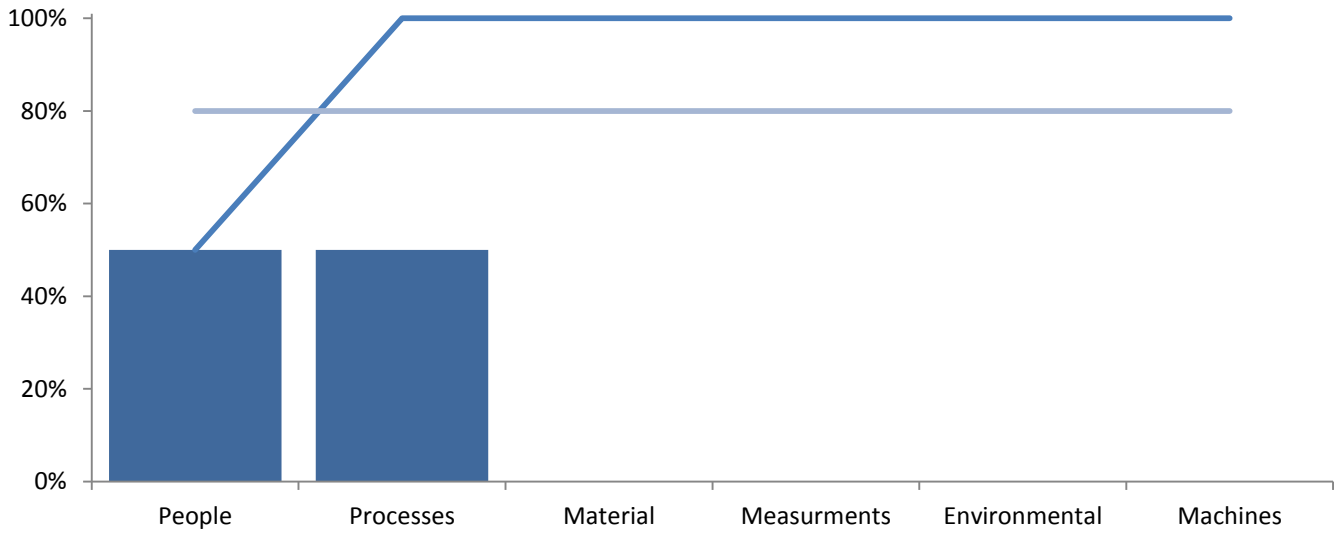
Output previous tool becomes input for…

Tool 2:

Pareto Chart

Purpose: Analyzing data and

deciding on which root cause to focus



Last tool so far…

Tool 3:

Correlation Analysis

Purpose: Find out whether correlation exists.

Examples: Company, contractor, weather conditions, geographic area, season, inside/outside, pipe labeled…

Further research

- Desk research: processes and procedures, other industries
- Interviews: contractors and other companies

7 Tenets of Process Improvement

- Strategic alignment
- **Governance**
- Process models
- Change management
- Performance and maturity
- Process improvement
- Tools and technology

Change Management

- Hard Side
- Soft Side

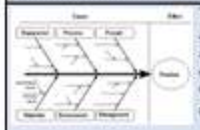
Knowledge Management

- Self-Leaning
- Lesson Learned
- Best Practice
- Community of Practice

Solution

Cutting the wrong pipe

Typically in brown fields (old facilities) pipes need to be replaced due to rust or corrosion or just lack of use. Every year, somehow, workers intent on removing a pipe, cut into a wrong pipe. This type of incident happens about 18 times every year. Not only is this very dangerous as it could cause catastrophic loss of life and equipment but correcting the error (by clearing the pipe and welding it closed) is time consuming and costly. Clearly cutting the wrong pipe is something that needs to be avoided at all times.



There have been 33 incidents of cutting the wrong pipe since January 2011. The first tool that we used was to do a cause and affect analysis (also called a Fishbone Analysis) to find the cause of each incident and then to make a decision on which type of cause would be the best problem to fix. The analysis showed that the causes were either caused by people or process.

A decision was made to work on the cause that had the greatest number of any incidents. We also created a Pareto Chart to verify that we were working on the "significant few" instead of the "insignificant many".

The next step was to do a correlation analysis to see if there was any correlation between the incidents. We checked on company names, location of the pipe (inside vs.. outside), size of the pipe, weather conditions, etc. We did not find any correlation between the incidents.

Our research was to look into what other industries do to identify pipe that needs to be removed. We checked American Society for Mechanical Engineers, British Standard 1710:1984, and three engineering and utility companies. The question asked and researched was – what are the procedures for marking a pipe to be cut and removed.

We further interviewed oil-field service companies and asked them what their experience was in this type of incident and how they felt it could be reduced. This led us to postulate an answer.

Using a Process Classification Framework (PCF) model, the change needed in this incident is to change the governance so that the roles are clearly defined with the process and the approach that will be taken.

The future state is that the responsibility for ensuring that the correct pipe is cut is that the owner should mark which pipe needs to be cut and not to rely on various contractors to select the pipe. This may not eliminate the problem of cutting the wrong pipe but it should greatly reduce the number of occurrences of the wrong pipe being cut.

Hard Side
1. Write new SOP for identifying and marking a pipe
2. Incorporate the change into the work permit
3. Notify contractors of the change in process
4. Broadcast SOP to global operations

Soft Side:
Don't believe there will be resistance to this change.

The cost to implement a governance change is minimal yet the potential savings would be huge particularly if a catastrophic incident occurred which cause loss of life and loss of a facility due to cutting an energized pipe and having it ignite.

The goal of Knowledge Management is to take tacit information and make it explicit. This particular incident does not make use of "in the flow" and/or "above the flow" documentation.

Categories:
A. Self-learning – SOP, change to work permit
B. Lesson Learned – Notify contractors
C. Best Practice – SOP
D. Community of Practice – Area Operations Managers.

October 2012
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Q Consultants 907-947-9063

QUESTIONS

& ANSWERS