Implementing Performance Management Techniques

Translating Vision & Strategy into Action & Results

Why??

- Every contractor is faced with the same basic premise:

Limited Resources

- The organization that leverages its "Limited Resources" to create the most repeatable, scalable processes is the one that will succeed.

How Does Your Company Compare?

- CFMA Performance Metrics and Management Accountability Survey

- A look at FMI's "Why Contractors Fail"

CFMA Performance Metrics and Management Accountability Survey

Survey Results -% <u>Ineffective</u>

Survey Category		By Type of Contractor				
	Overall Survey Results	**General Building**	**Heavy Highway**	**Residential**	**Specialty Trade**	**Other**
Management of People	**54%**	**52%**	**63%**	**44%**	**58%**	**56%**
Management of Project Sales and Customer Satisfaction	37%	34%	38%	51%	37%	39%
Management of Project Delivery (Buyout, Productivity, Quality, & Schedule)	27%	29%	24%	27%	25%	33%
Management of Insurance, Contracts, Risk & Safety	35%	30%	33%	45%	36%	47%

Survey Results-% <u>Ineffective</u>

Survey Category	Overall Survey Results	By Size of Contractor				
		< $25 Million	$25-$49 Million	$50-$99 Million	$100-$249 Million	>$250 Million
Management of People	**54%**	**65%**	**59%**	**54%**	**45%**	**41%**
Management of Project Sales and Customer Satisfaction	**37%**	**45%**	**32%**	**40%**	**26%**	**27%**
Management of Project Delivery (Buyout, Productivity, Quality, & Schedule)	**27%**	**33%**	**24%**	**25%**	**22%**	**28%**
Management of Insurance, Contracts, Risk & Safety	**35%**	**48%**	**34%**	**31%**	**24%**	**18%**

FMI's Failure Chain

Failure Chain Reaction Model in Action

Ego

No Strategic Plan

Overexpansion

Poor HR Practices

Project Losses

Poor Financial Management

No Cash

Government Policy Changes

Tight Financial Markets

Bankruptcy Doom Loop

SOURCE: FMI CORP.

Tools – Strategic Risks

- Project Selection

- Estimating & Bidding

Use of a Go-No Go Tool

ABC Company				
Risk Identification Matrix (RIM Model)				
Potential for risks are like an empty glass - add risks, and the closer to the rim glass. Want to manage risk in order to avoid overflowing the glass.				
Potential Risks:			**Risk Assignment**	**Project Risk Assessment**
1 Company History on Similar Projects				
	Have we performed similar projects before			
	1a.	Yes	0	0
	1b.	No	10	10
	If yes, did we have issues:			
	1c.	No	0	0
	1d.	Moderate	5	0
	1e.	Significant	10	10
	1f.	N/A	0	0
2 Project Size				
	Range:			
	2a.	<$25,000	0	0
	2b.	$25,000 - $100,000	5	
	2c.	$100,000 - $250,000	10	
	2d.	$250,000 - $500,000	15	
	2e.	$500,000 - $1,000,000	20	
	2f.	>$1,000,000	25	25
3 Geographic Location				
	3a.	Local (within 50 miles)	0	
	3b.	Intermmediate (51 to 100 miles)	5	
	3c.	Extended (100 miles plus)	10	10

4	Owner Relationship/History					
	4a.	No previous relations	5			
	4b.	Good relationship/history	0			
	4c.	"Rocky" relationship/history	10		10	
5	Customer Risk (if different from owner - GC, etc.)					
	5a.	No previous relations	5			
	5b.	Good relationship/history	0			
	5c.	"Rocky" relationship/history	10		10	
	5d.	Not applicable	0			
6	Project Schedule					
		Liquidated damages for delays				
	6a.	Yes	10		10	
	6b.	No	0			
		Shutdown work				
	6c.	Yes	5		5	
	6d.	No	0			
		Fast track project				
	6e.	Yes	5		5	
	6f.	No	0			
7	Competition					
	7a.	Typical local competition	0			
	7b.	Large out of the area bidders	5		5	
8	Special Considerations (positive or negative)		????			
	8a.	Explain: _____				
		_____				
		_____				

Total RIM Score 100 out of potential 100 points

Project Selection Considerations

Reputation and Past Experiences	✓ Project Owner
	✓ General Contractor/Construction Manager
	✓ Architect
	✓ Pre-qualify Customers (project financing arrangements when working with developers)

Review of Contract Documents (by management)	✓ General Conditions
	✓ Special Conditions
	✓ Form of Contract
	✓ MBE/DBE Participation Requirements
	✓ Incentive or Penalty Provisions

Project Selection Considerations

Job Site Visit (before estimating)	✓ Site Access
	✓ Traffic Control
	✓ Soil Samples / Test Borings

	✓ Project Layout
	    ✓ On-site Storage
	    ✓ Delivery Access

	✓ Cost-saving Construction Methods

Project Environment / Market	✓ New Geography?
	✓ Access to…. Labor (Union), Equipment, Material, Subcontractors
	✓ Transportation Costs
	✓ Permit and Zoning Requirements
	✓ Competition

Project Selection Considerations

Capabilities and Lessons Learned	✓ Company Capabilities vs. Contract Requirements
	    ✓ Type of Project - Expertise
	    ✓ Size of Project

	✓ Resource Schedules / Capacity
	✓ Similar Past Project Review – Good or Bad?

Aligning the "Go-No Go" Risk Assessment with the Estimating & Bidding Procedures

ABC Company				
Sample Risk Matrix Procedure Requirements				
		RIM Score		
Procedures	**0-24**	**25-49**	**50-74**	**75-100**
Pre-bid Procedures:				
Job site visit and inspection			X	X
Project manager review of owner RFP, contract documents, drawings, etc…	X			
Estimating department review of owner RFP, drawings etc…		X	X	X
Officer review of owner RFP, drawings etc…				X
Attend pre-bid meetings		X	X	X
Estimating Procedures - Takeoff:				
Project manager performs takeoff (manual or computer)	X			
Estimating department performs takeoff (manual or computer)		X	X	
Estimating department performs takeoff - digitizer				X
Review of takeoff by estimating department			X	X
Review of takeoff by officer				X
Estimating Procedures - Bid, Pricing and Proposal:				
Project manager preparation of bid and proposal	X			
Estimating department preparation of bid and proposal		X	X	X
Estimating department review of bid and proposal			X	X
Officer review of bid and proposal				X
Prepare project schedule using:				
Bar chart		X		
Microsoft project			X	
Detail CPM or PERT model				X

Project Scope/Quantity Take-Off Considerations

Detailed Analysis of Drawings	✓ Review Plans for Engineering Considerations / Value Add
	✓ Review Plans for Potential Errors or Omissions
Establish Formal Procedures for Taking Off Work Quantities	✓ Standardized procedures to establish a starting point on the drawings to prevent errors, omissions or duplication

	✓ Consistent use of accumulation tools
	   ✓ Formal take-off sheets cross referenced to drawings
	   ✓ Formal collection sheets for summary of each work item
	   ✓ Software

	✓ Supervision/Review by Qualified Estimating Personnel

Estimating and Bidding Considerations

Accurate and Reasonable Cost Assumptions	✓ Material Prices Based on Current Quote/Bid (competitive bids required over specified amount)
	✓ Subcontractors - Minimum of 3 bids required
	✓ Subcontractors – Bid review to identify scope exclusions or avoid duplications in final pricing
	✓ Use of Historical Cost Database / Communication with Accounting – Labor (including burden and fringe) and Equipment Costs (own vs. rent)
	✓ PRODUCTIVITY FACTORS
	✓ Consideration of Sales/Use Tax
	✓ Consideration of Union and Prevailing Wage Requirements

Estimating and Bidding Considerations

Project Profit	✓ Determination of Mark-up
	✓ Complexity
	✓ Completeness or Quality of Plans
	✓ Competition / Market
	✓ Current Workload / Schedule
	✓ Prior Experience with Customer
	✓ Incentive or Penalty Provisions
	✓ Contingency vs. Profit
	✓ Unbalanced Bidding – allocation of profits to early phases of work or work items likely to increase in quantity
	✓ Estimates Are Reviewed for Technical Accuracy by Someone other than the Estimator
	✓ Appropriate Level of Management Approves Bids Prior to Submittal
	✓ Productivity Assumptions
	✓ Overall Project Margin

Tools – Operational Risks

Issues

- Standard Operating Procedures:
  - Time Investment required to create SOP's (Systems, Forms, Process & Procedures needed to manage key risks throughout the construction lifecycle)
  - Technology/platform (ERP, Best in Class, Office templates/shared drive, Manual or combination of the above)

- Lack of resources needed to develop training programs for SOP's
  - Consistency & variability

- Reliance on lagging indicators versus leading indicators

- Management's ability to enforce process compliance or get timely feedback

Tools

- Project Scorecards/Dashboards
  - Leading versus lagging indicators

- Peer to peer project reviews

- Internal project audits

Performance Management & Key Performance Indicators

Performance Management/KPI's

- Integration of
  - *Strategy*
  - *People/Resources*
  - *Process*
  - *Technology*

- Objectives of performance management KPI's:
  - Define behaviors that drive success
  - Integration of "Best Practices"
  - Easy to comprehend
  - Easy to compute/track
  - Leads to action

Performance Management Practical Application

Management of Project Delivery (Initiative)
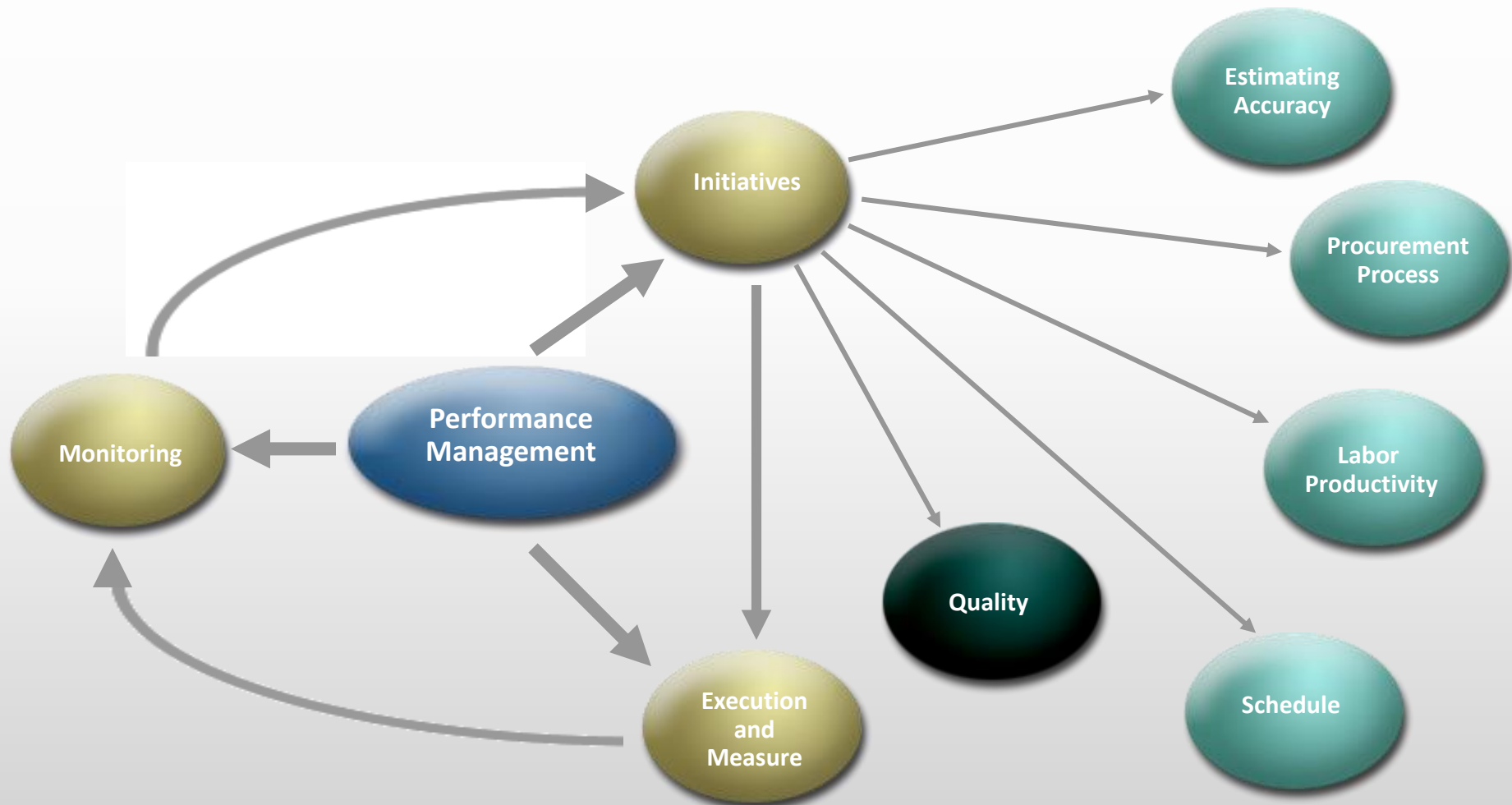
Project Delivery (KPI)
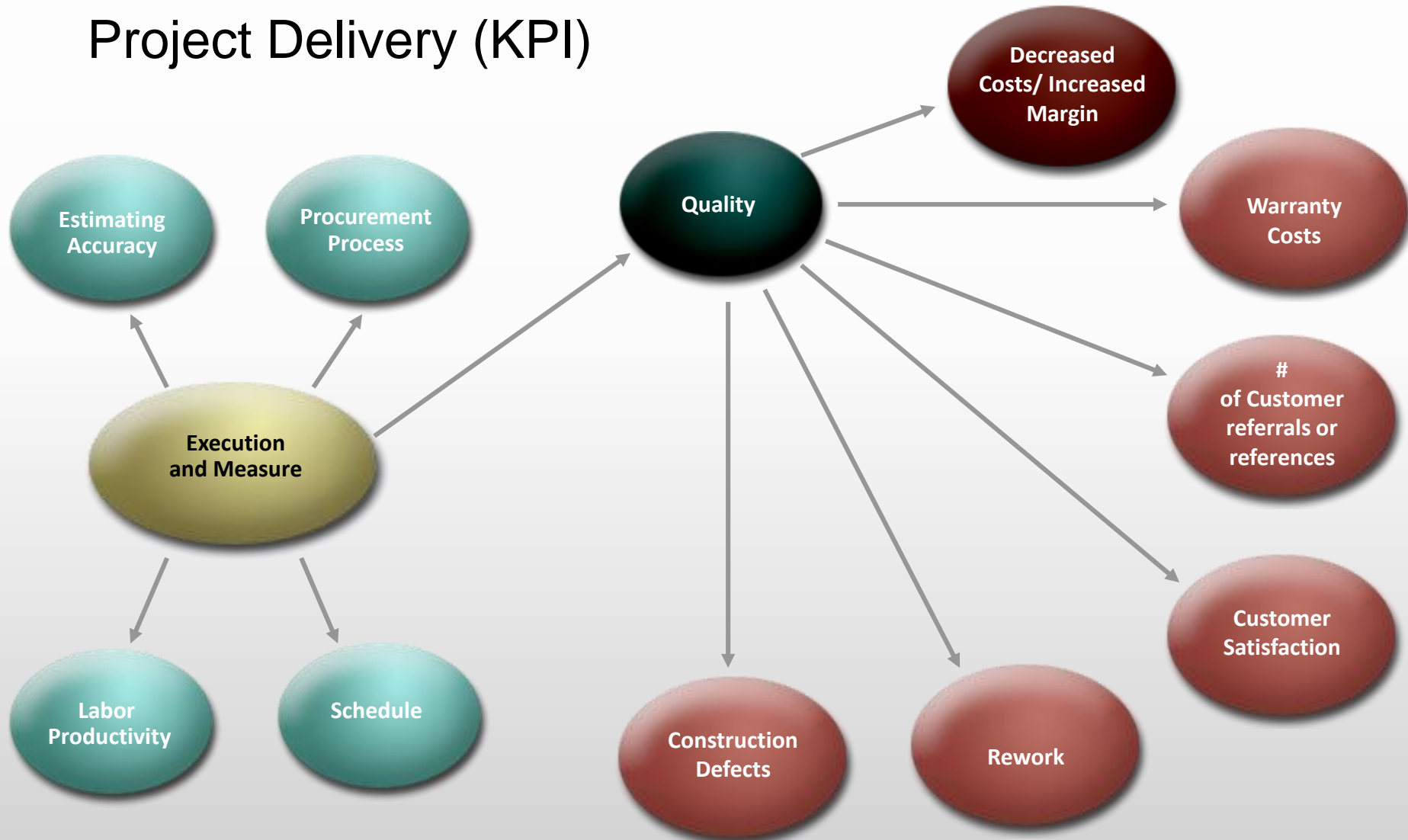
Practical Initiative Plans & Measures

Initiative: Improved Quality

"Increase margin and customer satisfaction through improved quality."

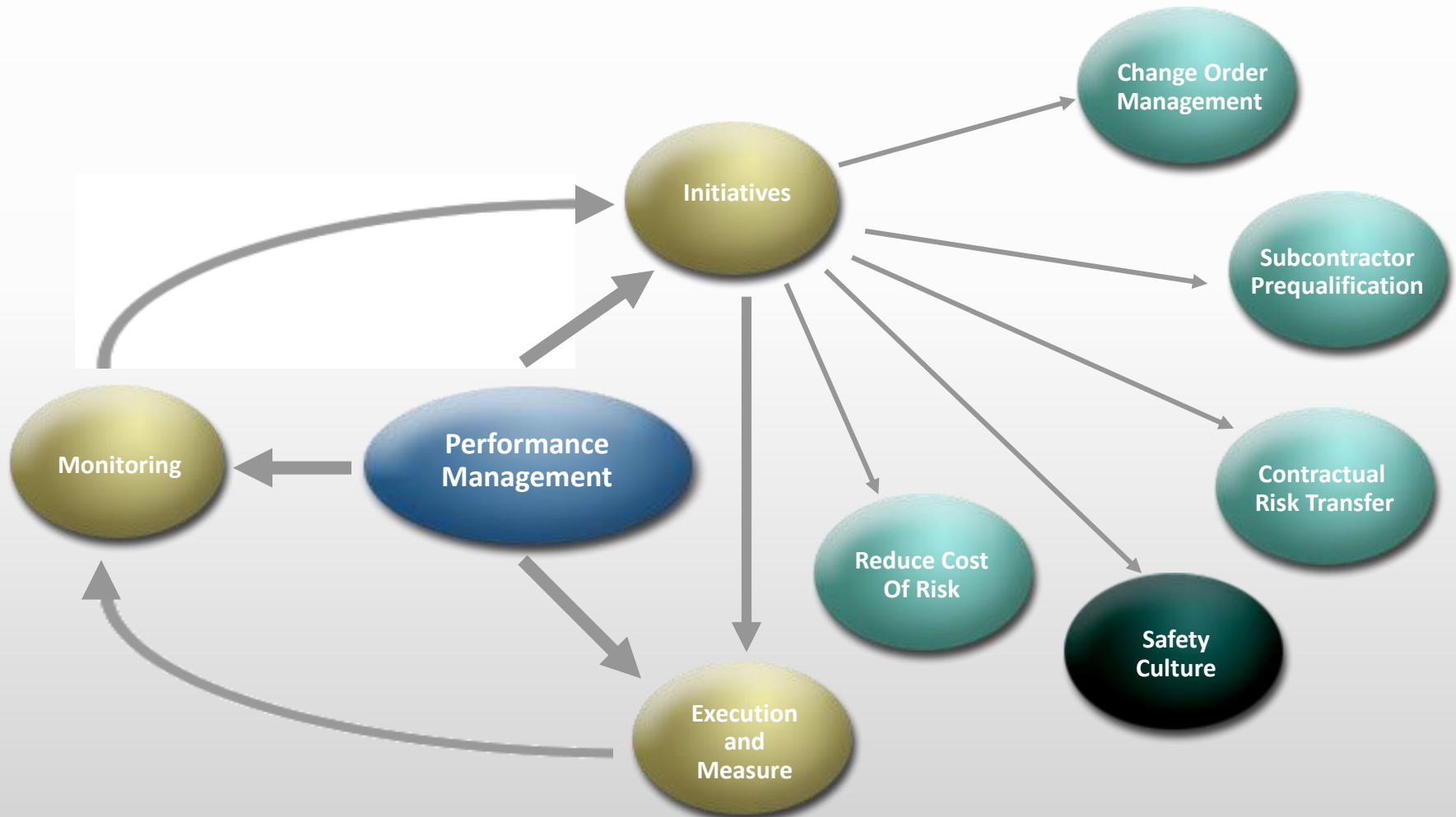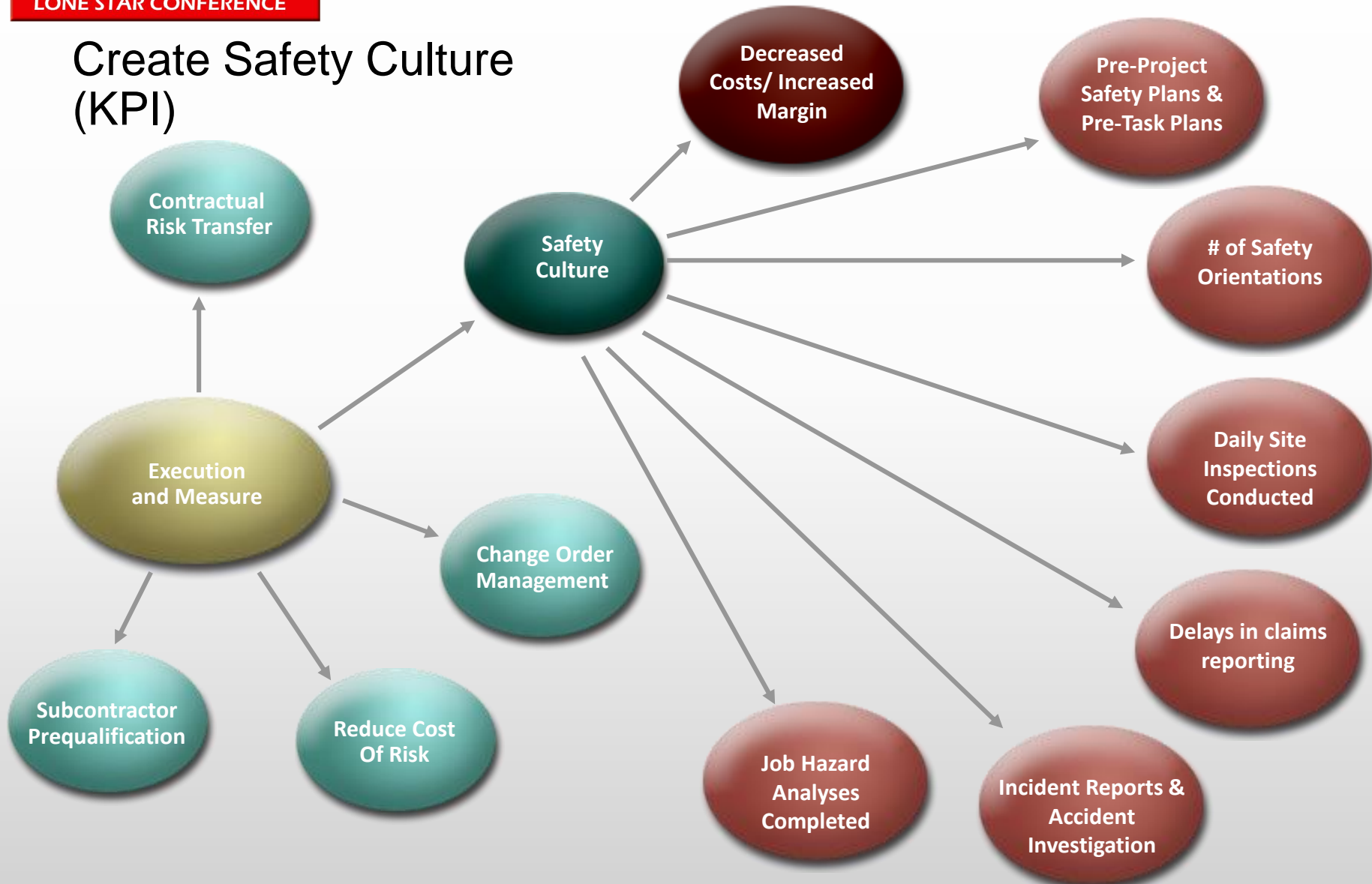| Finance Objective	Finance Measures	Finance Target
Increase margin through improved quality,	Margin dollars from improved quality	$1.5 million
Stakeholder Objective	**Stakeholder Measures**	**Stakeholder Target**
Increase number of satisfied customers from implementation of quality improvement program.	Number of satisfied customers	95% customer satisfaction rate.
Internal Process Objective	**Internal Measures**	**Internal Target**
Implement quality inspection and rework minimization program.	Percent of job sites inspection and inspection frequency	Daily inspection of all medium and high risk projects or components.
Learning/ Growth Objective	**Learning Measures**	**Learning Target**
Develop number of people who can perform the inspections.	# of people trained. Develop electronic inspection checklist.	10 people trained 10 handheld PDA's for use in inspection process.

Manage Insurance, Contracts, Risk and Safety (Initiative)

Create Safety Culture (KPI)

Practical Initiative Plans & Measures

Initiative: Safety Culture

"Improve safety performance through the ongoing promotion and reinforcement of safety culture."

Finance Objective	Finance Measures	Finance Target
Reduce cost of risk.	Percentage reduction in overall cost of risk.	5% Reduction
Stakeholder Objective	**Stakeholder Measures**	**Stakeholder Target**
Achieve safer workplace through expanded safety culture.	Number of people reporting a safer work environment. Fewer safety violations	85% of personnel reporting safe work environment. 3 or less safety violations
Internal Process Objective	**Internal Measures**	**Internal Target**
Implement an incident reporting and accident investigation process.	Incidents and accidents reported in first 24 hours.	100% compliance
Learning/ Growth Objective	**Learning Measures**	**Learning Target**
Develop number of people who can conduct accident investigations	# of people trained. Digital cameras and checklist.	10 people trained 10 digital cameras.

Creating a Performance Management Process

- **Remember – Our Objectives**

  - Define behaviors that drive success

  - Integration of strategy, people, process and technology

  - Integration of "Best Practices"

  - Easy to comprehend

  - Easy to compute/track

  - Leads to action

I feel my company's standard operating procedures for the entire construction life cycle are effective in managing risk and producing desired financial results.

- Yes
- No

I feel my company's internal training efforts of our employees on our standard operating processes and procedures are adequate to ensure consistency with said processes and procedures for the entire construction life cycle.

- Yes
- No

Project Scorecards
Practical Application

"Success is a process more than a realization"

Philosophy behind scorecards:

• Conscientious people equipped with the right process and the right information will almost always achieve the desired outcome

• Once people believe that the scorecard creates value for them by allowing management to make better decisions that affect them positively, it will become part of the culture and create trust

• Scorecards create an environment for constant process improvement and systems thinking that is not otherwise achievable

• Avoid focusing solely on the negative and celebrate success (including avoidance of potential risks) that the scorecard processes created

• Involve peers from other teams that had success with the last scorecard on the next assessment

"It's not what it is, it's what it does"

Scorecards in construction:

- Every stage of project delivery should have a process scorecard built around success and risk factors with both leading and lagging indicators

- Objectives of a process scorecard are 1) to provide senior managers information they need to make better decisions and 2) to have confidence that core processes are being followed

"Inspect what you expect"

Lessons learned:

- Assessments must **always** be done by senior people with intimate knowledge of the reason for a process, high degree of respect in the organization, and good judgment about whether an observation is an anomaly (good or bad) and whether it is material to the mission/objectives of the company

- Assessments must **always** be signed off as valid by the chain of management in the order of seniority so that the President/CEO can rely on the information and hold the other executives accountable

- There **always** must be consequences for managers and scorecard team failing to make the time to follow the scorecard process

- Any material process deviations or process weaknesses must have a corrective action plan implemented and effectiveness of the action must **always** be verified by a repeat of the specific scorecard process that revealed the issue

"Decision Making" Scorecard

Typical "go-no go" decisions that warrant a specific scorecard in the order they occur:

1. <u>Marketing/BD</u>: Should we pursue the project?

2. <u>Accounting</u>: Is the potential profit on the project sufficient return on resources (people, bonding capacity, cash flow) and risk assumed?

3. <u>Legal</u>: Do the contract terms reflect the company risk profile (insurance & bonding company limitations) and the assumptions that were the basis for "go" decision in #2?

4. <u>Estimating</u>: Is the estimate and price submission accurate and does it reflect the assumptions that were the basis for the "go" decision in #2 and #3?

5. <u>Executive Committee</u>: Have all of the assumptions that were the basis for the "go" decision in #2, 3, and 4 been maintained throughout the negotiations and evolution of the project and are all of the appropriate risk mitigation measures in place?

Once #5 is decided as a "go", the contract is signed and that scorecard becomes the basis for the "Action Taking" Scorecard during project performance

Crafting the Scorecard

Formation of the "Decision Making" scorecard process:

- Determine the "go-no go" decision points

- Determine all of the pre-decision processes that have to be complete and the outputs that need to be a part of the decision (and criteria for red/yellow/green)

- Determine line manager who is responsible for verifying that the scorecard process has been accomplished and the scorecard is completed fully and accurately

- Determine who needs to be involved in the decision

- Determine what information they need to make the decision

- Determine the sign-offs and inputs that need to be in place before the final decision is made

Marketing/Business Development Scorecard

- Prior experience with client (senior relationships)

- Early and middle game strategy

- Financing in place and likelihood project will proceed

- Sophistication of client

- Strength of relationship with client

- Relationship with architect and owner rep

- Contractor selection process (hard bid, negotiated, limited competition etc.)

- Fee potential of project

- In or out of footprint

- Marketing resources available

- Precon resources available

- Qualified Operations team available

Each element scored 1 to 4. Range of score should have a green/yellow/red range based on experience with prior projects with a minimum score reflecting a "no go".

Estimating/Pre-Construction

- Is there sufficient firm quote coverage on subcontracts and supplier numbers?

- Have we done an independent take off and used current rates for scopes that do not have sub/supplier quotes?

- Have we verified sales tax, renovation tax, bond rates, etc.?

- Do we have the correct labor burdens for unions, state specific rates, OCIP, etc.?

- How are we pricing site conditions and weather risk?

- Do we have a firm builder's risk quote for the project location and duration?

- Do we have surety approval on the contract or required risk assumptions in the price submission?

- Is there sufficient contingency to reflect the remaining design development if not 100%CD's?

- Has a scheduling consultant reviewed the schedule for logic and durations and the project phasing?

- Has legal reviewed the clarifications and assumptions?

- Do we clearly understand the performance specification risk and put a risk strategy around them (i.e., has an envelope consultant reviewed the skin design and a flooring consultant reviewed the flooring design)?

Project Kickoff/Scorecard Development

Because the previous scorecards will be the basis of measurement of the project team's performance and they are held accountable for the "go" decision:

- The project team must receive a full understanding of the final estimate, schedule, financial expectations, and legal review and risk assumptions included in the "go" decisions

- The project scorecard is developed in the kickoff meeting from a standard template and modified as necessary to reflect the "go" decisions

- The anticipated date for the "peer review" is established based on the consensus date of when the project risk will be sufficiently mature to evaluate

- The scorecard process becomes an Action Taking format and performance of each risk or success factor is measured as "acceptable" or "unacceptable" based on the "go" assumptions and the risks identified

- Client satisfaction expectations identified during the pre-construction process should also be included

Project Execution – General Scorecard

- Every project with significant risk is reviewed at the 20-30% stage of completion

- An independent peer review team is assembled with senior SME's for each subject including operations from a similar project

- Review takes 6-12 hours with an exit debrief with the project team

Project Review Program: Report Summary

Project Information	
Division	
Project Name	
Contract Amount	
Estimated Financial Profit	
Estimated Potential Profit	
Percent Complete	
Scheduled Completion Date	

Project Review Results	Does Not Meet Expectations	Meets Expectations
a. Schedule		Meets
b. Execution of the Schedule		Meets
c. Buyout		Meets
d. RFIs		Meets
e. Submittals		Meets
f. Proposals/Change Orders		Meets
g. Backcharges		Meets
h. Owner & Sub/Suppliers Payment		Meets
i. Daily Diary		Meets
j. Progress Photos		Meets
k. PFR		Meets
l. Quality Control		Meets
m. Project Close-Out Plan		Meets
n. Office Administration Checklist		Meets
o. Legal		Meets
p. MWBE Participation		Meets
q. Financial Review		Meets
r. Risk Management		Meets
s. Meetings		Meets
t. CCIP / OCIP / Subguard		Meets
u. Human Resource Measures		Meets
v. MAP Process		Meets

Report Sign-Off

Review Team	Signature	Date
Operations		
Safety		
Risk Management		
Human Resources		
Legal		
Financial		
Project Team		
Business Unit Leader		
Project Manager		
Division Management		
CEO		
COO		
CFO		
CLO		

Project Review Program: Report Details

1. Schedule	Opinion Doesn't Meet/ Meets	Support for Opinion
a. Does the baseline schedule reflect milestones consistent with the major subcontractor comments and subcontract dates? Provide samples.	Meets	Input from subs incorporated into overall durations and agreed to the schedules
b. Does the baseline schedule reflect milestones consistent with the owner contract?	Meets	
c. Does the schedule comply with all contract requirements and other needs of the project?	Meets	
d. Does the baseline schedule reflect foreseeable weather impacts that the contract requires us to take into account?	Meets	Only small portion of outside work has weather exposure. Has an allowance for weather added at end.
e. Has the project schedule been cost loaded if required?	N/A	
f. Have all project supervisors, major subcontractors, and vendors bought into the schedule (e.g. subcontract exhibit, change order, or signed letter of acknowledgment)?	Meets	Has not been a change order into subcontracts but will be after 9/6/11 drawing issue.
g. Is the current schedule posted at the job site and regularly used in planning meetings?	Meets	Attached to meeting minutes and the project team has access to shared drive.
h. Does project team understand the data date and completion date in the baseline schedule?	Meets	

3. Buyout	Opinion Doesn't Meet/ Meets	Support for Opinion
a. Is the buyout plan consistent with the schedule?	Meets	
b. Are the subcontract exhibits, particularly the special provisions, adequate, consistent with the contract, and signed off by required executives?	Meets	Need to schedule meeting with CLO to revisit SP's before SA-5 GMP is finalized.
c. Are there any subcontracts and Purchase Orders outstanding more than 21 days since date of issue?	Meets	Several on SA-5 are held up for the unusual requirement of security bonds.
d. Is the buyout status consistent with the PFR?	Meets	
e. Has there been a detailed procedure performed to ensure no scope of work is missed? If so, describe it?	Meets	Detailed post bid interviews and scope included or contingency above the line included.
f. Are there any alternates or options in subcontracts with deadlines for commitment?	Meets	Skylights at ticket check-in. Schedule has fragnets included.
g. Are there any unbondable subcontractors/suppliers with contracts over $100,000 without approved unbonded plans?	Meets	
h. Is there a current safety plan and QC plan (if required) in the major subcontracts?	Meets	
i. Are the subcontract exclusions and inclusions consistent with the clarifications and assumptions in the GMP or prime contract?	Meets	C&A's are eliminated during design development with A/E until minimal amount remain at GMP.
j. Are all buyout notes, meeting notes, and other bid documents accessible?	Meets	Scanned and filed on local drive.

11. PFR	Opinion Doesn't Meet/ Meets	Support for Opinion
a. Have original budget items been entered into the PFR? If not, why?	Meets	SA1 thru SA5 are current with change orders signed to date. SA5 will have additional change orders prior to going to GMP around Jan 2012
b. Does the source document have proper approvals?	Meets	Budgets set up thru Div Finance & approved by PM
c. Does the original budget tie to the approved source document?	Meets	
d. Is the current employee and now-labor general conditions schedule reflected in the PFR projections?	Meets	Budgets include projected savings to be returned to owner. PM reviews projections against monthly run rate to establish if enough cost is left for completion. More detailed approach to GC cost breakdown and burn rate should be reflected in JV PFRs
e. Is the project profit reasonable?	Meets	Division Finance and PM's have discussed PFR profit projections in PFR's and should be corrected in August PFRs
f. Does the PFR reflect an accurate financial presentation each month?	Meets	Profit adjustments in August will help with along with more detailed approach to GC cost breakdown in JV PFRs
g. Are risk factors that could have an impact on the PFR profit identified? If so, what are they?	Meets	No material risks identified
h. Is the PFR being projected to reflect the type of contract and contract terms?	Meets	
i. Do the SSR committed balances tie to the budget amounts by cost code?	Meets	
j. Are their any negative C-T-C's? If yes, what is the reason?	Meets	No negative CTC on JV PFRs. Internal PFRs include negative CTC for JV reimbursements, Admin Fees, IT Overhead Fees, Unreimbursable costs billable to the JV

Safety

- Separate scorecard process performed on every project by Safety Director or third party at least quarterly

- Measured by violations of CFR 1926 with specific criteria in each subpart and overall job cleanliness

- Violations designated as significant required a corrective action plan and a follow up visit and explanation from responsible contractor designated competent person

- Total violations for every project and each type of violation were charted for senior management and reported at least quarterly to spot trends

- Project team received incentive compensation for meeting target goals for the project from the violations scorecard

Quality Control

- Separate QC scorecard process performed on every project at least quarterly by designated member of QC Task Team

- QC Scorecard is based on the performance specification risks identified in the "go" decision and the risk mitigation strategy, including:

  - Overall effectiveness of the QC plan

  - Compliance of program with the contract specifications

  - Completeness of initial submittals and rejected submittals

  - NCR disposition log

  - Air quality program compliance

Project Completion

Scorecard includes all of the requirements that define successful closeout of a project within the timeframes set out in SOP or the contract:

- Consistency with prior scorecards and financial expectations

- Completed punch list, including O&M Manuals

- Substantial and Final completion certificates within projected schedule and contract requirements

- Closeout of builder's risk and bonds

- Subs final paid within 30 days

- Documents archived according to policy

Summary

- Know what you're trying to accomplish and why..

- Keep yourself accountable

- Move beyond traditional financial "rear view mirror" performance measurements