



Waste Treatment Plant Project

Product Process Integrity Analysis (PPIA)

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Bechtel National, Inc.

URS



PPIA – Product Process Integrity Analysis

Collaborative Risk Mitigation

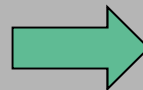


Objective

- Working together with suppliers/subcontractors to understand and impact performance on critical designs, products and processes
 - Look proactively for problems before issues occur
 - Deploy right skills/knowledge to determine risks and issues
 - Identify/mitigate areas that jeopardize project success



Where are we weak? Why?



Risk Mitigation Actions



Product Process Integrity Analysis

- Identify risks and develop mitigation plans to prevent them from occurring
 - Possible failure modes, weaknesses, gaps
 - Throughout project lifecycle
 - Related to Bechtel's and supplier's/sub-contractor's issues
- COLLABORATIVE process with suppliers/sub-contractors
- Process Failure Mode Effects Analysis (PFMEA) Tool



We own the risk in the chain...our suppliers are an extension of us



ONE Method for Risk Identification/ Mitigation

Working together with our suppliers/ subcontractors to identify, understand and impact performance on critical designs and manufacturing processes

- Look proactively for problems before issues occur
- Employ the right skills/knowledge to determine the cultural, technical, and process risks and issues
- Identify/mitigate areas that jeopardize quality, project success, safety—and ultimately customer success

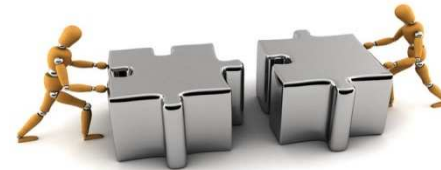
Where/how/why are we weak?



**Risk Mitigation Actions
(high level PFMEA)**

Benefits of Successful Product Process Integrity Analysis

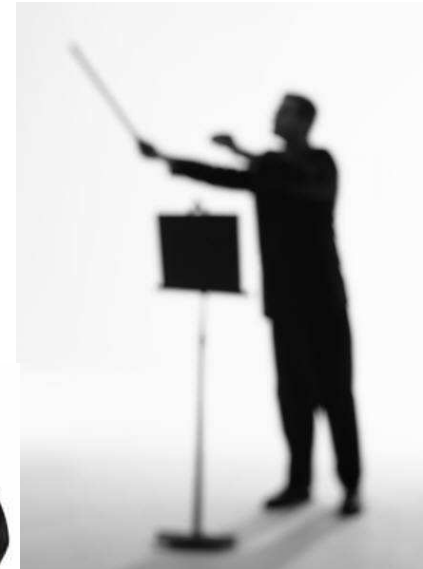
- Supplier/ Subcontractor
 - Enhanced understanding of requirements
 - Reduced exposure to rework/warranty costs
 - Lower cost to serve
 - Improved work processes
 - Greater customer satisfaction, potentially leading to repeat business
- Bechtel
 - Greater certainty of outcome
 - Cost/schedule risk reduction
 - Cross-functional alignment
 - Improved supplier/subcontractor relationships



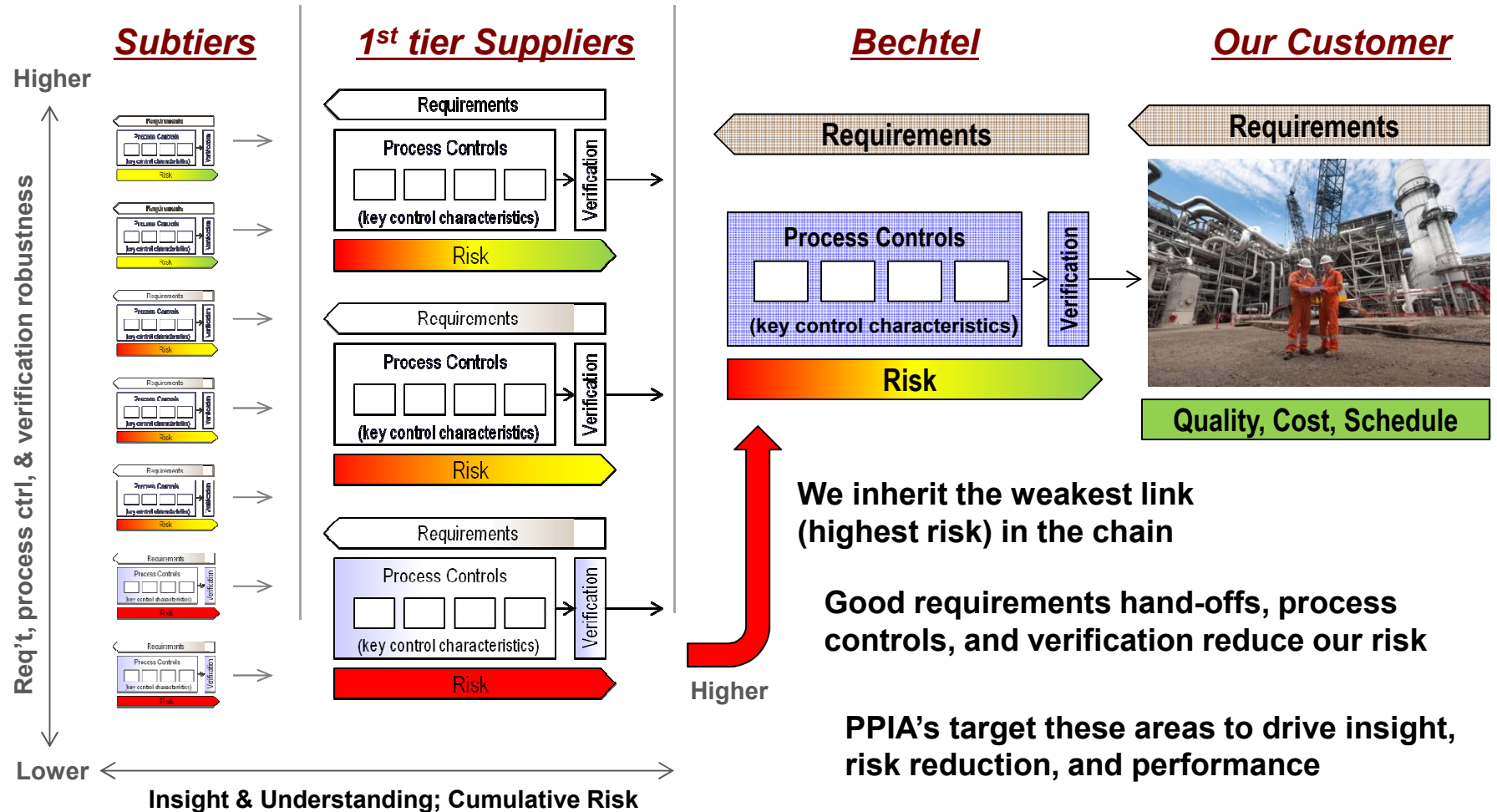


What Bechtel needs from YOU

- Executive sponsorship
- Collaboration
- Direct feedback
- Transparency
- Change management
- Dedication
- Teamwork



Requirements/Risk Relationship

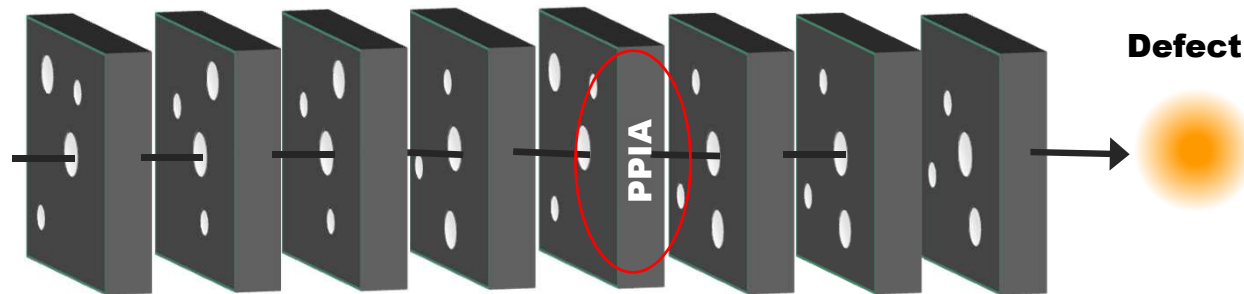


A Barrier in the System

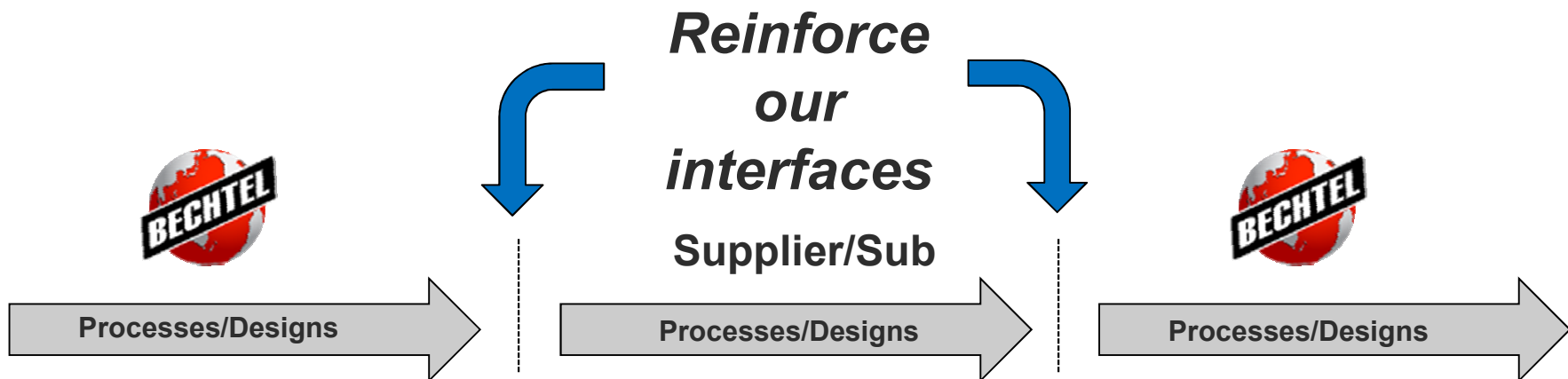


Basic Approach

Engage and
Reconcile Failure
Modes



Adapted from James Reason, Managing the Risks of Organizational Accidents, 1997



PPIA is but ONE tool in the toolbox—use the right tool for the job!



Product Process Integrity Analysis vs. Quality Audit

How is PPIA different from another audit?

- Product-focused, in-depth technical assessment
- Not a compliance-based activity
- Collaborative, two-way look at both supplier/subcontractor and Bechtel processes to identify risks and mitigations
- Cross-functional team engaged, including quality, procurement, engineering, and subject matter experts (SME)



PPIA does not replace quality audits



Supplier/Subcontractor Selection

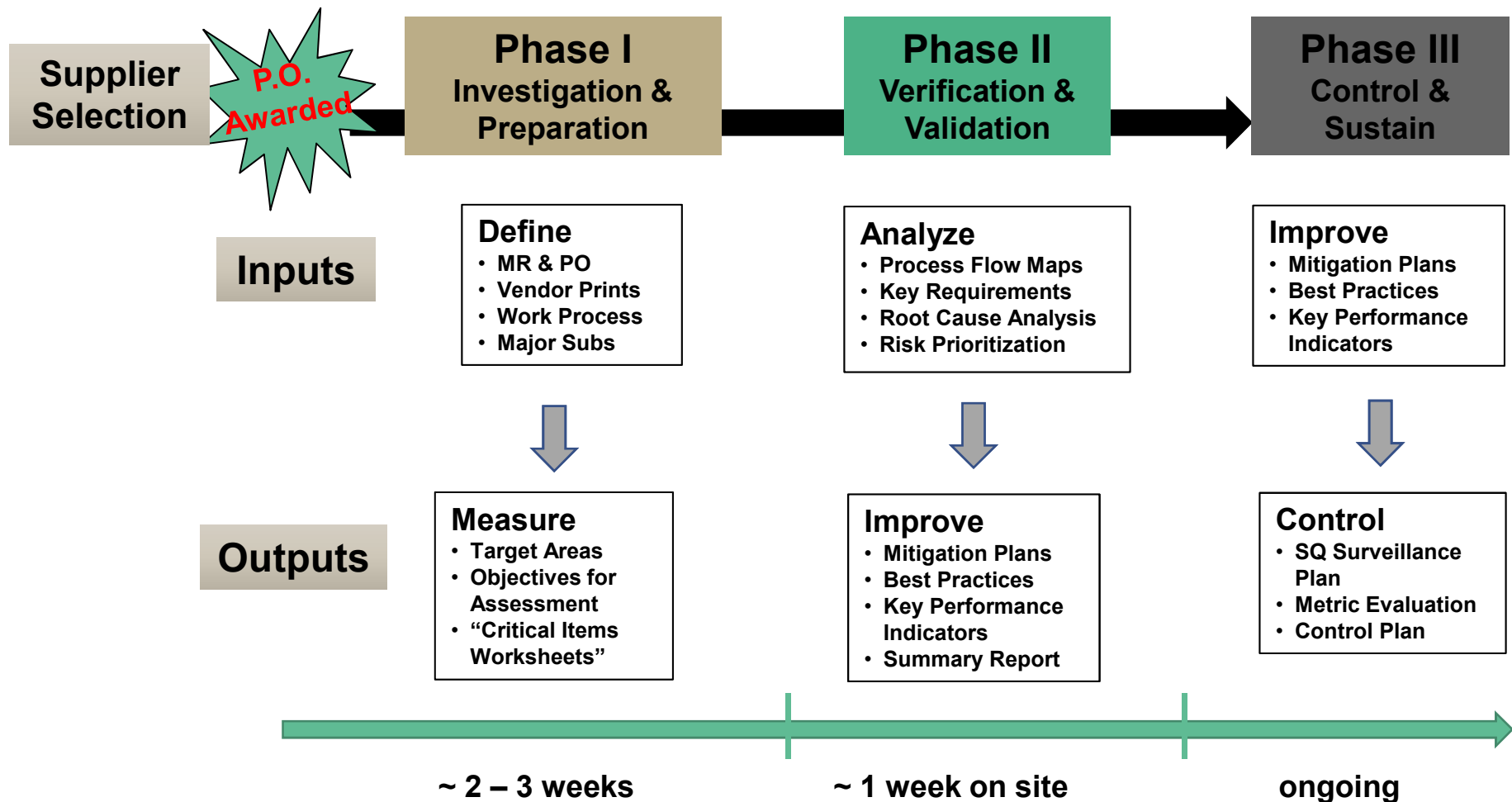
Criteria

- First of a Kind
 - Equipment or its application
 - Region/country (subcontract)
- Technical complexity
- Experience with specific equipment/material types
- Supplier performance history
- Potential impact to cost or schedule
- Special project requirements that may be unfamiliar
- Others as appropriate for scope, equipment, etc.



PPIA's are initiated selectively

Phased Execution Model

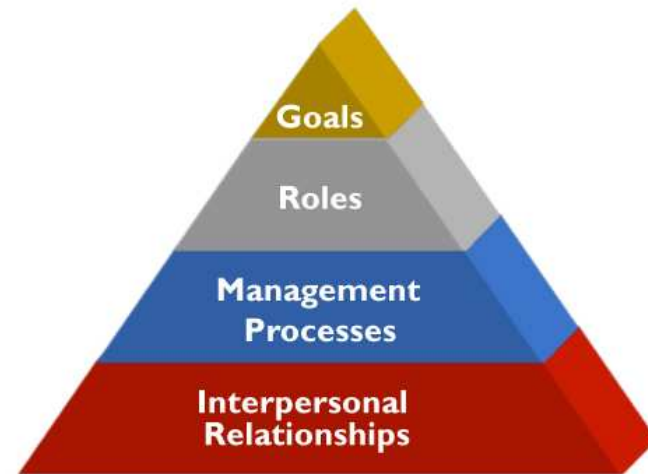


PFMEA Approach to Analysis

Tailored Team for each Product Process Integrity Analysis

- Bechtel Team
 - Executive sponsor
 - Procurement, engineering, quality
 - Others as appropriate

- Supplier/Subcontractor Team
 - Executive sponsor
 - Project management
 - Engineering
 - Quality
 - Others as appropriate



Model developed by Rubin, Plovnick and Fry





Suppliers and Bechtel Working Together Through Collaboration

Example information

- What makes this supplier/subcontractor a good PPIA candidate?
- Known challenges for this contract/purchase order
- Criticality of equipment/contract to project success
- Historical relationship with supplier/subcontract – **why they are important to us beyond this order/contract**
- Any relevant historical data/information with this supplier/subcontract or commodity/equipment/contract type or scope, etc.

How we would approach a PPIA in this circumstance

- Recommended sub-tier involvement (who/how many)
- SMEs needed
- Timing/execution/follow-up plans
- Other required support needed from specific supplier/subcontractor



PPIA – Summary/Take Aways

- Objective is to reduce supply chain risks
- Increases understanding of Bechtel's and Supplier's/Sub-contractor's weaknesses
- Cross-functional team and SMEs brought together
- Enables informed risk mitigation and action plans
- Must be a collaborative process to be successful





QUESTIONS?

Email or Text

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