



Changing the Culture in Capital Projects

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Why good people make big mistakes

(How our brain works – building rigor into work processes)



Conscious Processing $\leq 10\%$

- Analytical – Focused
- Controlled, intentionally-initiated sequences
- Rigorous Root Cause Analysis
- Careful, “best work”
- Resource limited – takes energy

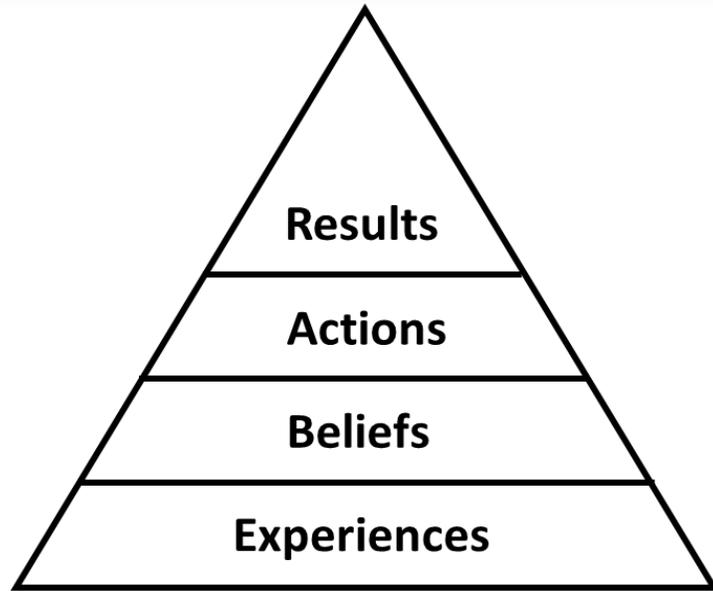
Automatic Processing $\geq 90\%$

- Fast, effortless and parallel
- Based on “pattern matching”
- What “usually happens”
- Biases based on experience
- “Frequency gambling”
- Overlooks the details



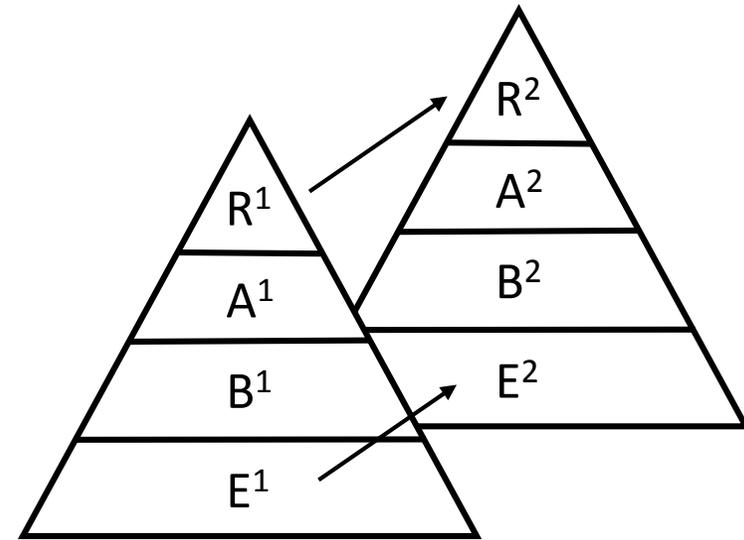


Culture – What is it?



*“The integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for **learning and transmitting knowledge** to succeeding generations”*

Merriam Webster



“Change the Culture, Change the Game”

***Reward Positive Behaviors!!
These will come before measurable
results***

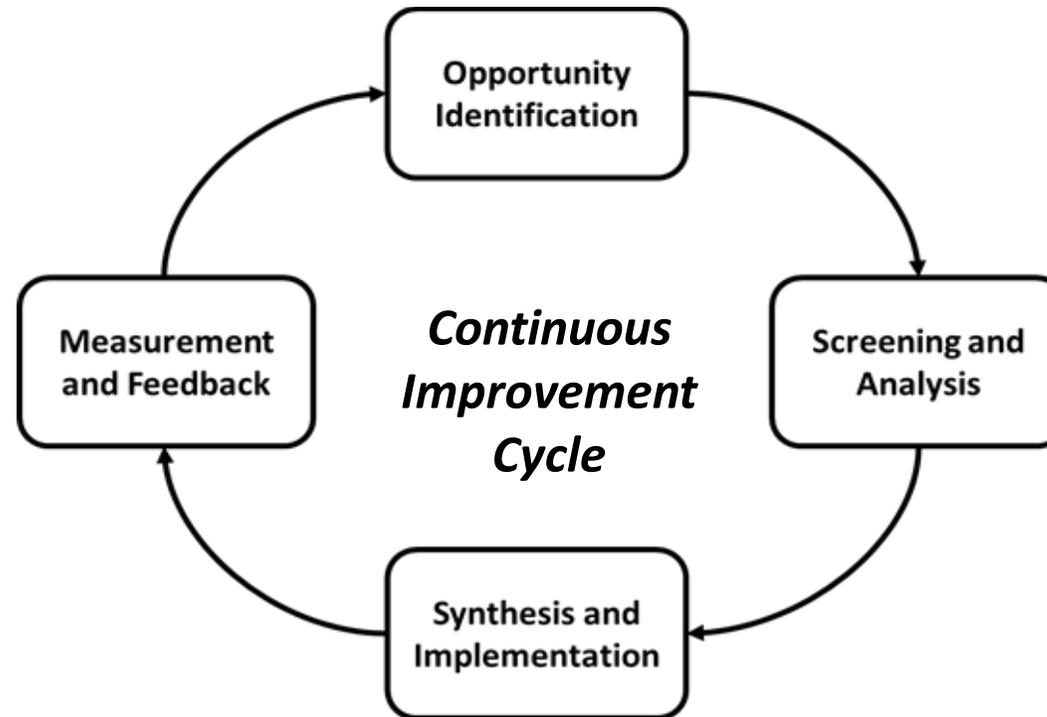


Creating a Learning Organization

“A learning organization is an organization skilled at ***creating, acquiring, and transferring knowledge***, embracing change and innovation at all levels, and at ***modifying its behavior*** to reflect new knowledge and insights.”



Change Management Approach





Opportunity Identification

Metrics / Data Mining

- Safety / Performance Factors
- Unit Rates / Rates of Placement
- IWD Process Improvements

Best Practices / Breakthrough Strategies

- BPPII Evaluation (CII)
- Technology Deployment Opportunities

Meetings / Interviews

- Contractor / Craft Feedback
- Effectiveness Assessments

Observations

- Pre-Job Briefs
- Team interaction / Collaboration

Breakthrough Strategies

Technology Adoption

KPPs

Planned Percent Complete

RFIs

Unit Rates

Safety Metrics

Time on Tools

Craft Engagement

Performance Factors



Analysis

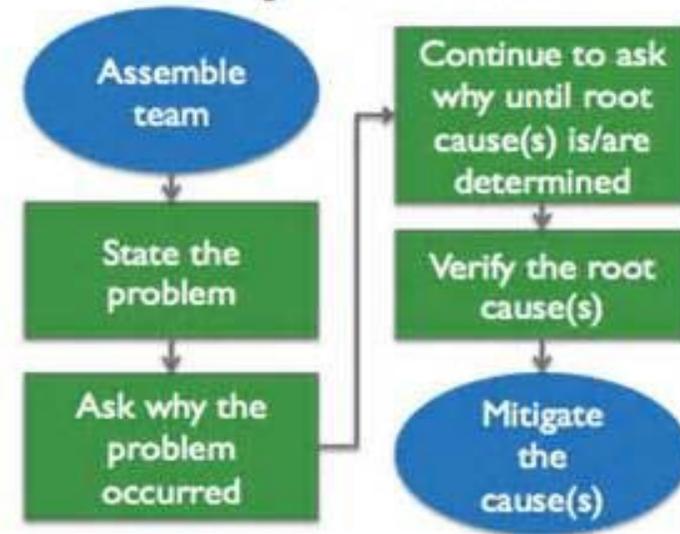
Root Cause Analysis

- 5 Why's
- 5 How's
- Fishbone
- Plus / Delta

Leading Indicators

- Questioning Attitude
- IWD Quality
- Pre-Job Briefing / Engagement
- Supervisor Ratio
- Crew Mix / Craft Tenure
- Contractor Turn-over

"5 Why" Root-Cause Analysis Process



Plus/Delta





Recent Safety Incidents



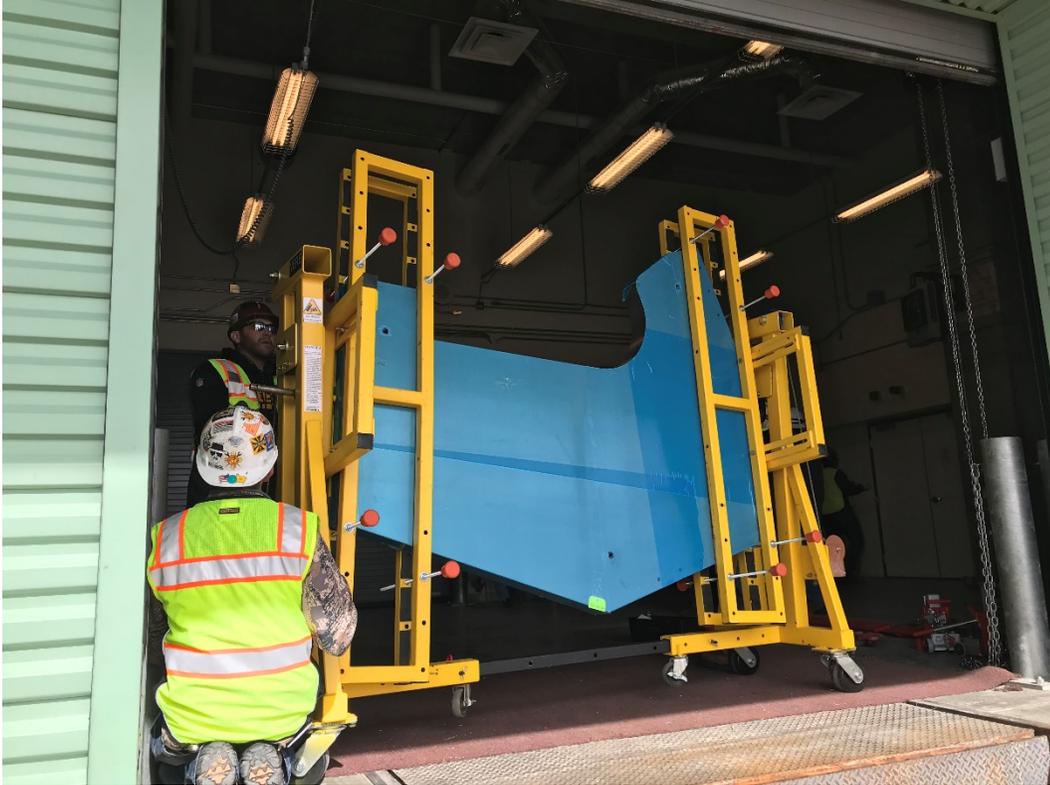
**ECCCE Project
July 2018**



**ECCCE Project
December 2018**



Recent Safety Incidents



**CMRR REI2
February 2019**





Investigation Results: Similar Events

Perception of low risk, leading to failure to pause work, making field-modifications of rigging or lift equipment configuration, standing below loads, not securing loads to lifting device, not barricading to ensure safety zone maintained.

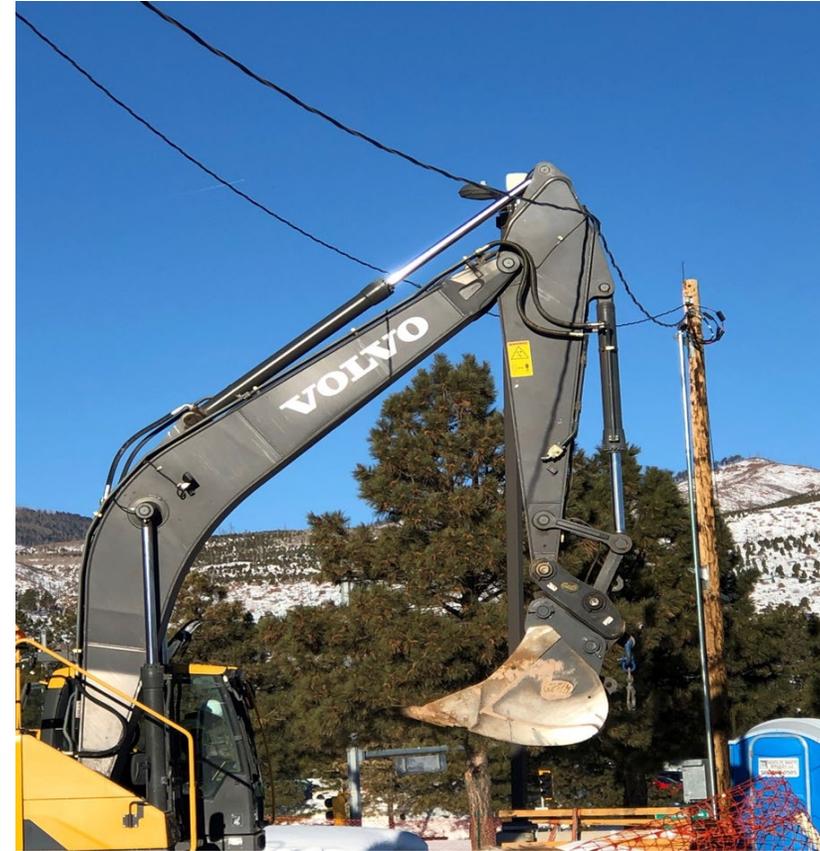
- FL/Tour (TA-53) - No barricading
- Angle Iron (CCI) - Standing below load, load not secured
- Tipped sheet metal brake (TA-16)
- Bobcat-incorrect lifting attachment (CCI) - Persons below load
- Lab machinists - Below waste bin lift
- Spool piece - Working below unsecured load
- VERE optical table hoist move - Modified rigging while under load



Recent Safety Incidents



**ECCCE Project
March 2019**



**SEP Waterline Project
January 2019**



Investigation Results

Perception of low risk and failure to recognize job hazards. Both incidents were the result of complacency and failure to follow the Integrated Work-Planning Document (IWD). Changing conditions / personnel were not addressed, inadequate pre-job brief.

- Human Performance Improvement Orientation sessions were conducted jointly between Triad and S/C teams.
- Job Hazard Analysis (JHA) requirements reinforced with formal review by Triad prior to execution.
- Responsible Line Manager (RLM) appointment and responsibilities clarified.
- Accountability at all levels within Triad and Subcontractors emphasized.
- Additional Oversight / Mentoring being provided.



Conclusions

Previous corrective actions have been ineffective in arresting poor performance because they have been primarily focused on the teams that have experienced the event.

Therefore, many corrective actions have not been applied systematically across the laboratory to address what are actually cross-functional/organizational issues.



Conclusions, cont.

Previous corrective actions have not successfully established a conservatively biased culture as pertains to:

- Enforcing controls identified in planning
- Non-working oversight for selected tasks
- Willingness to work at risk (results-oriented culture)
- Quality and consistency in conduct of Pre-Job Briefs
- Deliberate application of Lessons Learned
- Categorization of Lift Plans / Critical vs. Low Risk
- Recognition of High Hazard Activities
- Personal accountability to pause work / question



Implementation / Measurement

Communication

- Videos
- Safety Alerts / Lab wide
- Tool Box Topics

Work Process Enhancements

- Work Instructions / Hold Points
- Planning Enhancements
- Performance Enhancements

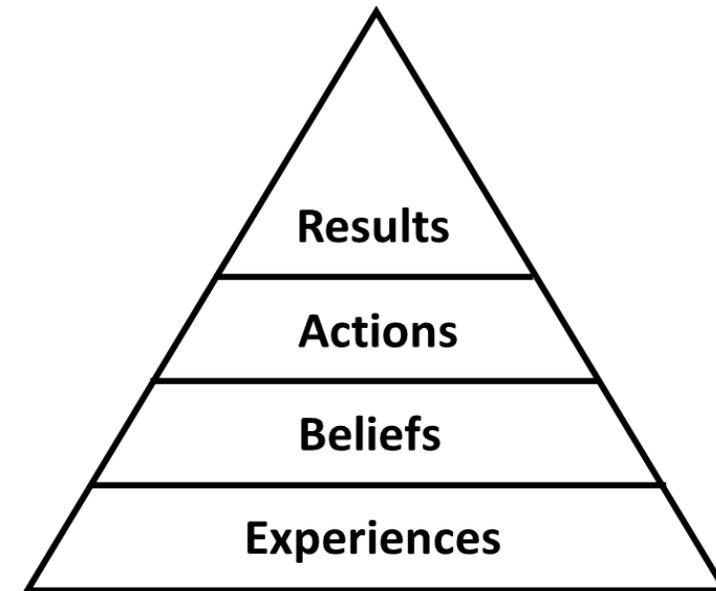
Mentoring / Coaching

- SAFE / LOSA Leadership Immersion
- Human Performance Improvement
- High Hazard Identification

Recognition / Incentives

- Self-pause Recognition
- “Good Catch” Program
- Repeat Awards / Business Continuity

The Results Pyramid



“Change the Culture, Change the Game”

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***These will come before
measurable results***



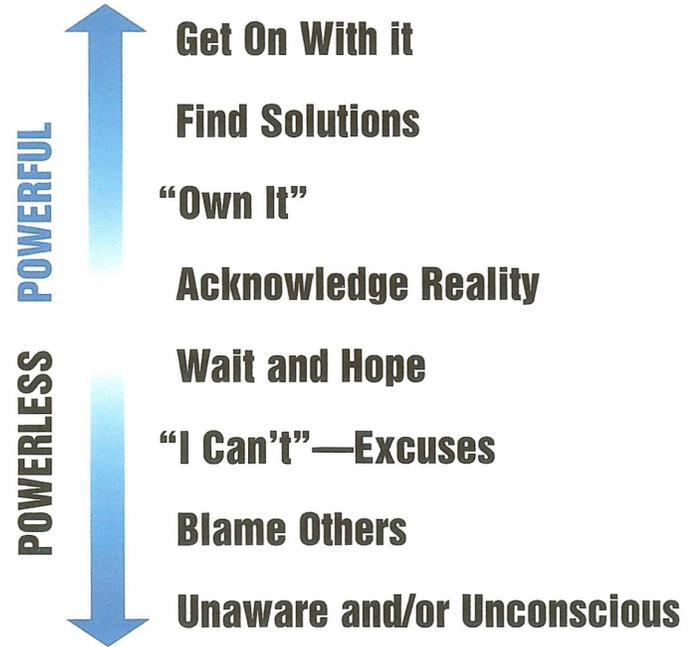
Accountability

*Culture Change
begins when we
change what we
“Experience”.*

*What gets Rewarded
gets Repeated...*

Levels of Accountability

ACCOUNTABILITY 



Accountability

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