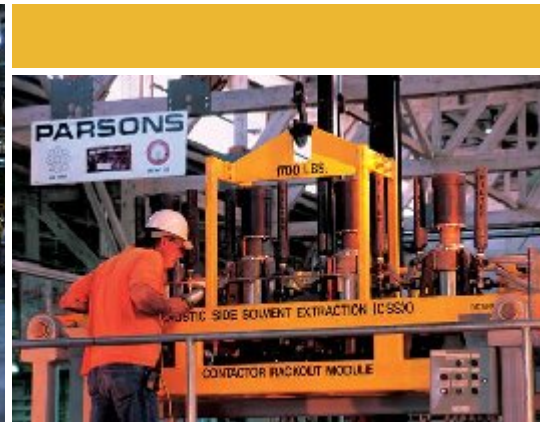


## The Culture of Safety – How the Line Achieves World Class Safety Performance From Construction into Operations

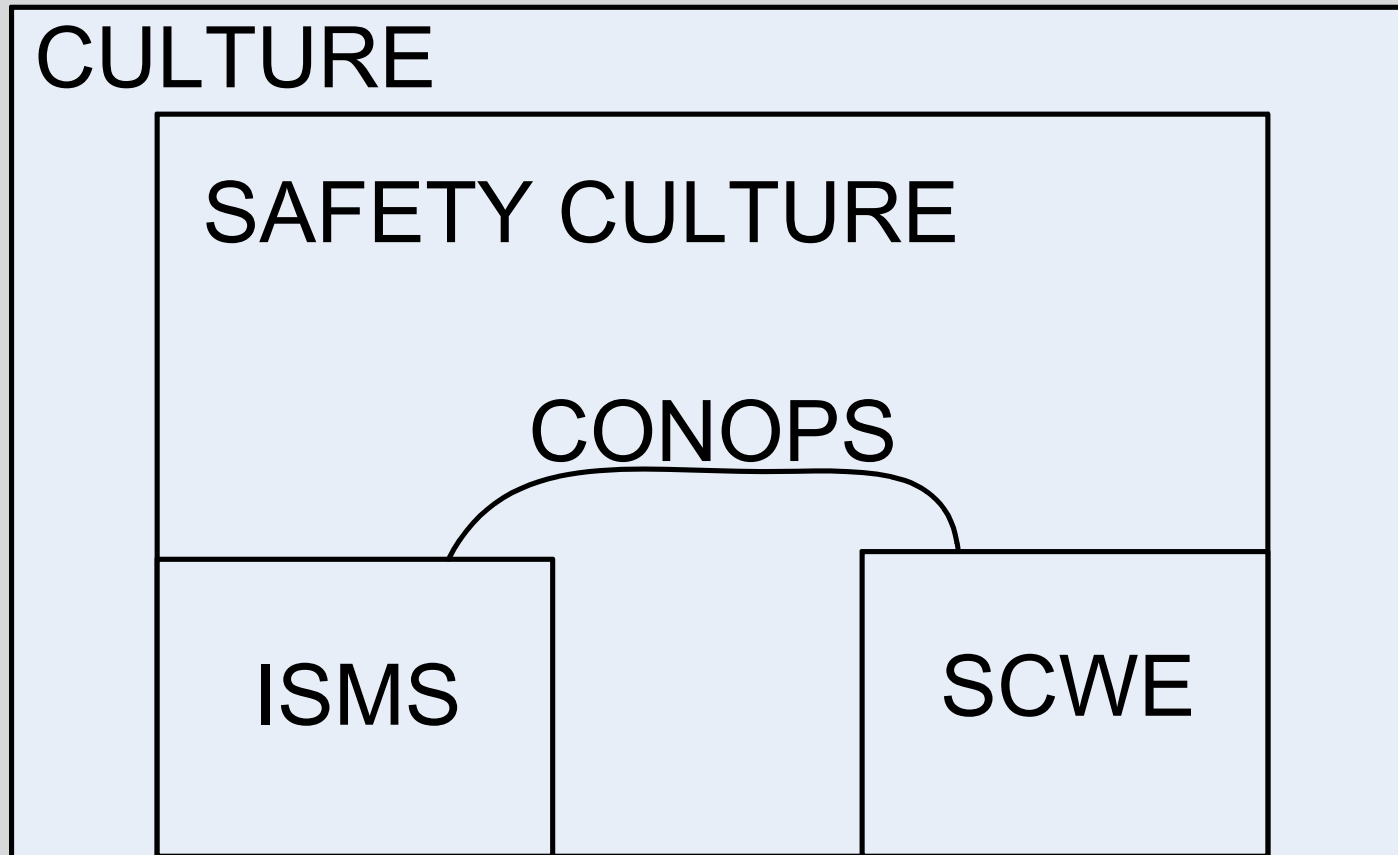


Roy Schepens, Vice President, Parsons Infrastructure & Technology Group

# Safety Culture

- Safety Culture – The shared values an organization exhibits through its policies, procedures, and actions that makes safety a core value
  - Create a safety atmosphere
  - Employees embrace ownership
  - Accept personal responsibility
  
- A Safety Culture resides within the overall culture of an organization

# Safety Culture



BBS – Behavior Based Safety  
HPI – Human Performance Improvement  
VPP – Voluntary Protection Program  
CAP – Corrective Action Program

# Implementation

- Instilling a safety culture requires concrete and visible actions
  - Focus on continuous improvement
  - Institutionalize learning
  - Invest in safety training and leadership development
  - Demand a healthy pessimism
  - Demand a disciplined conduct of operations (CONOPS)
  - Assure that safety programs are visible and empowered
  - Transition focus from mitigative to proactive measures

# Focus on Continuous Improvement

## ■ Avoid Complacency – Incidents can happen

- Avoiding high frequency, low consequence incidents requires acknowledgement that zero accidents is achievable
- Avoiding low frequency, high consequence incidents requires acknowledgement that they can happen
- These incidents can and should be prevented
- Do not accept a degradation of the plant, people, or programs

# Institutionalize Learning

- Learn the lessons of the past
  - Establish an institutionalized lessons learned program
  - Go beyond the local site and industry
  - Learn from the accidents and incidents of others as well as the best practices
  - Incorporate these lessons learned into designs and operating procedures

# Invest in Safety Training and Leadership Development

- Investments in safety always pays off
  - Work related injuries cost \$1 billion per week
  - Investments in safety training for workers and leaders makes good economic sense
  - Our people and the environment are worth the investment!

# Demand a Healthy Pessimism

- Ask questions and understand the work environment
  - Have a healthy pessimism and ask questions that ensure the work environment is understood
  - Go beyond the PowerPoint presentation
  - Understand the underlying assumptions
  - Challenge workers to not only ask the question of what is possible, but to visualize the impossible and be prepared!



# Disciplined Conduct of Operations

- Maintain disciplined conduct of operations
  - Verbatim compliance with procedures will minimize the chance of repeat incidents
  - Disciplined operating behaviors incorporating strong CONOPS principles will ensure operations are performed within analyzed conditions. Surprises will be minimized
  - Strive to engineer incidents to not be possible instead of relying solely on CONOPS
  - Understand the limit of procedures and be willing to STOP and listen to workers when procedures are not the answer!

# Safety Programs Must be Visible and Empowered

## ■ Empower safety programs

- Safety programs must be visible and emphasized
- Employees should always feel empowered. Demand safety personnel provide input
- Employee led safety councils and processes are very effective
- Allow workers to demonstrate ownership through action
- Provide multiple avenues to raise issues

# Focus on Proactive Measures

- Transition focus from mitigative to proactive
  - Actions are identified to prevent events vs identifying actions to be taken after an event has occurred
  - Implementation of criticality safety programs are an example of proactive actions to prevent an incident
  - Implementation of criticality safety programs that focus on proactive activities (fire prevention, radiological controls, nuclear safety, industrial safety)
  - Develop measurement tools that can gauge the safety culture of the organization – “What Gets Measured Gets Managed”

# Other Accidents

- Columbia
- Tokiamura
- Davis-Bessie
- THORP
- Texas City BP Refinery
- COMAIR 5191
- Savannah Sugar Refinery Explosion
- US Airways Hudson River Crash
- Connecticut Natural Gas Plant Explosion

# Develop a Highly Reliable Organization

- A highly reliable organization institutionalizes the safety culture. Attributes include the following
  - Highly reliable operational performance
  - Individual attitude and responsibility
  - Performance assurance
  - Organizational performance improvement

# Set the Example

- Senior managers can set the example for an organization's safety culture
  - Establish an environment where individuals are motivated to achieve world class safety performance
  - Create and empower employee driven safety processes
  - Require all oversight and safety personnel (including ourselves) to develop an understanding of the worksite and workers who depend on our leadership

# Set the Example

- Senior managers can set the example for an organization's safety culture
  - Train oversight and safety workers to a level equal to the designers or operators of a facility
  - Demonstrate safety leadership in the field, not at your desk

# Improve Human Performance

- Human error is seen in almost all accidents
- Take measures to improve human performance
  - Adopt lessons learned from the nuclear power industry
  - Train workers to understand human performance improvement techniques
  - Identify and eliminate latent organizational errors



# Improve Human Performance

- Recognize that good worker morale improves the safety culture
- Ensure workers are comfortable bringing forward improvements of any kind, not just safety
- A measurement of worker morale can be one leading indicator of the strength of the safety culture

# Avoid the Traps

- Create an effective safety culture
  - Take immediate action
  - Avoid centric thinking on safety
  - Tracking and rewarding safety statistics may discourage reporting. Focus on the outstanding behavioral output!

# Avoid the Traps

## ■ Create an effective safety culture

- Develop effective safety leaders! Safety is not just the “Safety Reps” responsibility
- Balance positive and negative reinforcement in holding personnel accountable for safety
- Demand that management take the lead role in the safety performance of their direct reports

# The Future

- Zero accidents are possible
  - Large construction projects (Golden Gate Bridge, the Big Dig) have had fatalities. Large construction projects will not have any fatalities
  - Investigate incidents as accidents before a loss is sustained
  - Provide a receptive workplace for all safety concerns to be raised and solutions to be explored
  - Instill a safety ownership in all. Create an environment where workers believe it is achievable!

# The Future

- Zero accidents are possible
  - The building of a positive safety culture is never completed and we must always strive for continuous improvement
  - A world class safety culture survives because the foundation of pride and ownership is strong enough to withstand management changes