Safety Culture - A Case Study

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NRC Safety Culture Workshop – Draft Definition

- **Nuclear Safety Culture is the core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.**

NRC Safety Culture Workshop – Draft Traits

- Problem Resolution and Metrics
- Personal Responsibilities and Attitudes
- Process and Procedures
- Continuous Learning
- Leadership Safety Behaviors
- Encouraging Report of Problems
- Effective Safety Communication
- Respectful Work Environment

Case Study – Equipment Factors

- Photo eye assures operator present during operation of vacuum transfer from Safe Container to non-favorable geometry Blender Hopper and designated an IROF.
- Experienced operator – 7+ years.
- Training up to date and self proclaimed knowledge of procedure requirements & IROFS.
- Equipment function not degraded
- Transfer completed; vacuum needed to be continued for 2-3 minutes to assure line would not clog.
- Operator knowingly defeated sensor with tape in order to perform another task.

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Case Study – Behavioral Factors

- Perceived schedule and & peer pressure to complete workload
- Multi-tasking mindset led to cognitive development of a work around
- Rationalized “actual” safety significance moving into knowledge based operating mode
- Working alone but appropriately peer checked on prior shift for using a hammer to engage the sensor
- Peer check believed to effectively reinforce rule based behavior hence not reported to supervisor or management
- Lost sight of known rule based procedural compliance expectations

Case Study – Immediate Corrective Actions

- **Employee Action**
  - **Upon evaluation of human and organizational factors employee was terminated**
  - **Employee that performed the Peer Check met base expectations hence counseled on expectations**
- **Organizational Factors**
  - **All Hands Stand Down**
    - Leadership roles and responsibilities
    - Engaging supervision
  - **Work Group Meetings Held**
    - More detail provided regarding events & ramifications
    - Procedure compliance behavioral reinforcement
    - Emphasized safety first and rule base behavioral expectations

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Case Study – Follow-on Corrective Actions

- **Willful misconduct site leadership stand down led by VP, Fuel Manufacturing.**
  - Accountability, situational awareness, problem reporting, work environment, open communications, opportunities for employees to raise concerns/issues, employee FFD, potential event repercussions.
  - Flow down with site wide working groups stand downs – to improve work group specialization of message & discussions
  - Appropriately shared results of events & disciplinary action
- **Safety Conscious Work Environment (SCWE) training reinforced throughout AREVA NP Inc**
- **Site wide survey to assess working environment in all work groups.**
- **Evaluated means to off load administrative burdens of supervision and increase floor time**
- **Improved shift to shift communications of work/equipment status.**
- **Assessed staffing & skill levels in work group.**

Case Study – Human Performance Improvement

- Reinforcing human performance tools
  - STAR – Stop, Think, Act, & Review
  - Questioning Attitude
  - Procedure Use & Adherence
  - Peer Check
  - Pre Job Brief
  - Error Proofing
- Established a human performance lab
  - "Hands on" laboratory based training on all tools
- Formal observation program (pluses and areas for improvement) complementing "Safety Aces" recognition program

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Case Study – Traits Assessment

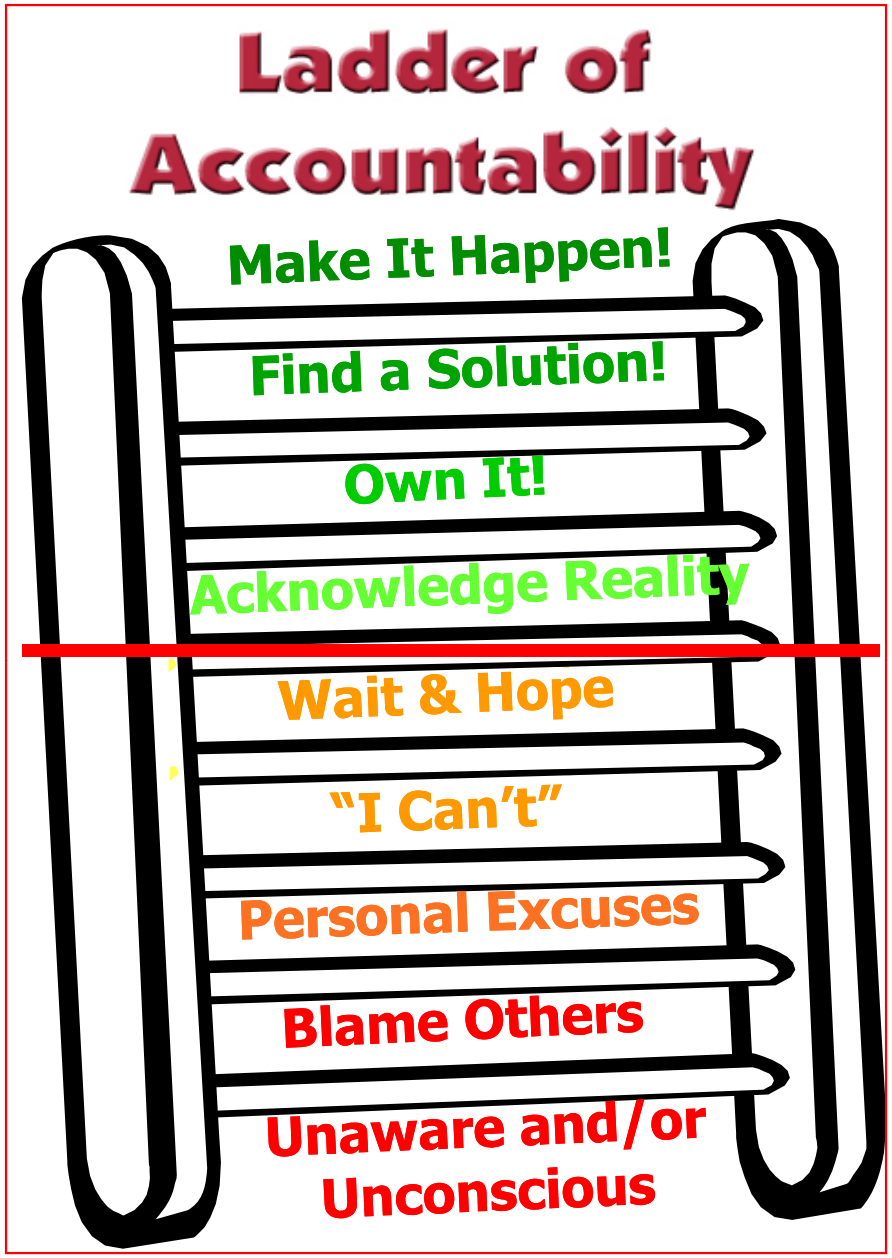
- **Problem Resolution and Metrics**
  - Active corrective action system in place for identifying equipment issues; however no related CRs
  - Open door policy for addressing workplace behavioral issues; however peer pressure not flagged
- **Personal Responsibilities and Attitudes**
  - Operator failed to adhere to fundamental responsibilities
  - Unacceptable behavior after appropriate peer check
- **Process and Procedures**
  - Procedures clear, trained, & understood.
  - Periodic reinforcement of behavioral expectations regarding reporting personnel and equipment issues not adequate
- **Continuous Learning**
  - Significant use of this event and others in training broad population to aid prevention.

Case Study – Traits Assessment

- **Leadership Safety Behaviors**
  - Identification and response good
  - Failed to identify organizational factors and human weaknesses that led to perceived peer pressure
- **Encourage Report of Problems**
  - Reporting environment encouraged
  - Need to drive thresholds down for internal reporting an improvement
- **Effective Safety Communications**
  - Response strong but how could we have improved earlier to prevent?
- **Respect for Work Environment**
  - Short term deviation from rule based behavior flagged by both peer and supervisor
  - Peer pressure to complete tasks not adequately considered as a workplace factor

Safety Culture – A Case Study; Conclusions

- **Lessons Learned**
  - **Complacency can never be allowed**
  - **No one Trait or Attribute is the cause or the barrier and no function or working level is immune**
  - **When people are "working alone" or with limited supervision/oversight consider greater potential for performance drift**
  - **Do not presume performance issues are more likely to come from your lesser experienced personnel; also consider your experienced personnel**
  - **Trust but verify; and make that visible throughout the organization**
  - **It takes <u>all</u> members of a team supporting a Safety Conscious Work Environment (SCWE) and reinforcing desired traits and behaviors.**



Safety Culture – A Case Study

Where Are You On The Ladder?

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