Key Elements of a World Class Construction Safety Program

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Introduction to PCL

- Founded in 1906
- Industrial, civil and building construction
- Over 45 million hours self perform work annually
- Total managed – 80 million hours annually
- 9.5 billion dollars contracted
- Notable projects
Introduction to Southern Company

- Atlanta-based serving 4.4 million customers
  - 46,000 megawatts of generating capacity
  - Serves SE United States
  - Employs over 26,000 people
- Southern Company Engineering and Construction Services (EC&S)
  - 1,500 employees managing 16 projects
  - Managed 125 million hours in past 7 years
  - 6 – 7,000 workers on projects every day

KEY ELEMENTS

- Commitment and accountability
- Effective contracts
- Hiring the best contractors and subcontractors
- Construction safety planning
- Safety training/education
- Hazard identification and control
- Behavioral safety
- Incident investigation
COMMITMENT AND ACCOUNTABILITY

• Without it... all else is futile

• Commitment is:
  - Buy-in by employees and supervisors
  - Constant visible support
  - Resources
  - Safety and health professionals
  - Comprehensive safety systems
  - Craft skills and safety training

• Accountability is:
  - Defined safety and health responsibilities
  - Knowledge of requirements
  - Assessments
  - Recognition programs
  - Discipline
  - Retraining as necessary
EFFECTIVE CONTRACTS

- Clear and definitive HSE requirements
  - Summary documents are best
  - Fairness to contractors and subcontractors is important
  - Meetings to explain requirements are helpful
  - Owners who are more engaged get better results
  - CII and CURT encourage robust contract language

HIRING THE BEST CONTRACTORS AND SUBCONTRACTORS

- Screening and selection process
  - Consider
    - Incident rates and EMR
    - Leading indicators
    - Past experience
  - Ensure contractor knowledge of requirements
- Post-selection
  - Meet to reinforce SH&E requirements
CONSTRUCTION SAFETY AND HEALTH PLANNING

• Pre-project safety planning
  - Visit to project site – understand scope
  - Assessment checklist – SH&E
    • PM and estimators
  - Construction Hazard Analysis
  - Training needs assessment
  - Determine JHAs

CONSTRUCTION SAFETY AND HEALTH PLANNING

• JHAs
  - Critical tasks with risk
  - Prepared by PMs and engineers
  - Every worker trained and signs JHA
CONSTRUCTION SAFETY AND HEALTH PLANNING

• Pre-task safety checklist
  - Every worker, every crew
  - Trained to complete
  - At site of the work
  - Identify hazards and corrections
  - Redone when task changes
  - Auditing is a must
  - Frequent training and emphasis is needed
  - Enhances employee involvement

• Site-specific SH&E Plan
  - Published before mobilization
  - Provided to contractor bidders
  - A living document
SAFETY TRAINING AND EDUCATION

- Supervisors and managers must know safety systems
- Everyone must know safety requirements
  - Tasks such as:
    - Confined space entry
    - Fall protection
    - Excavations
    - Lockout
    - Rigging, etc.

SAFETY TRAINING AND EDUCATION

- Comprehensive safety orientation for all
  - Conducted by a professional
  - Test to verify understanding
- OSHA 10 and 30 hour courses
- Hazard recognition training
- Training must be verified or conducted on site
HAZARD IDENTIFICATION AND CONTROL

- Key is knowledge of safety requirements
- Informal and formal inspections
- Managers and supervisors consistent presence cannot be overemphasized
- Emphasis on correction of hazards once identified
- Track trends and re-train as needed

HAZARD IDENTIFICATION AND CONTROL

- Incident investigation
  - Medical treatment cases
  - First aids
  - Near misses
  - Investigations with identification of root causes
  - Corrective actions
BEHAVIORAL SAFETY

• Observations
  - Peer-to-peer observations are best
  - Observation training essential
  - Observation trends measured and action taken

• Understanding of worker behaviors
  - Managers and supervisors need behavioral safety training
  - Workers need to understand what leads them to at risk-behavior

BEHAVIORAL SAFETY

• Safety as a value
  - Must work to instill safety as a value among supervisors and workers
  - Must treat workers with respect
QUESTIONS?

Presentations and Handouts

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