A Systematic Approach to Contractor Safety at a Voluntary Protection Program (VPP) Site Through the Application of Basic Process Safety Management Principles

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The United States Space Industry is 57 years young. It has met new scientific challenges while sustaining the integrity of mature technology.

United Space Alliance, LLC. is carrying the torch to the next milestone in space exploration. We welcome the task, we prepare for the risk, we anticipate our accomplishments of the future all the while questing for excellence.
Presentation History

2003- First Presentation

Lessons Learned

Process Improvements
Presentation Objectives

• Co-Mingling PSM Requirements with VPP
• Company Policy/Departmental Integration
• Subcontractor Selection Process
• Assisting Subcontractors in Meeting Stringent Safety Requirements
• Holding Subcontractors ACCOUNTABLE
• Monitoring Subcontractor Jobs – Safety Perspective
• Challenges and Lessons Learned
US Rocket & Space Technology History

- Development
- Testing
- Launch Site Selection
Location, Location, Location

Citrus Groves

Birds, Wildlife, Vegetation
National Wildlife Refuge with Part of the Coastal Area National Seashore, Consisting of 140,000 Acres
KSC TODAY

- Private Industry Provides the Services
- Obtaining the Contract

Competitive price
Performance
A SINGLE PRIME CONTRACTOR

- The Reward is a substantial cost savings to the shuttle program of $400 million compared to prior costs

- UNITED SPACE ALLIANCE, LLC
  - A Prime Contractor for Space Shuttle Program
  - Contract Award
  - Contract Responsibility
  - Fixed Price Contractor Process
Being the Prime Contractor has its Challenges
USA FL VPP STAR SITE: May 2002

• Re-Certification - 2006

• 14 USA Special Government Employees (SGEs) on Site to Support
### PSM
- Selection Process – performance & programs
- Documented Safety & Health Training & Retraining
- Inform Employees of Unique Hazards/Procedures of the Facility
- Provide information to the Host Employer of Created or Discovered Hazards
- Performance is Periodically Evaluated & Assurance of Safety Rule & Policy Compliance

### VPP
- Selection Process – Contractors Report Illness & Injury Rates
- Develop & Operate Effective Safety & Health Management Systems
- Contract Employees Provided Safety & Health Protection Equal to that of Regular Employees
- Prompt Correction or Process to Remove Contract Workers for Non-Compliance
Managing Subcontractors at a PSM/VPP Site

- Subcontractor Classifications
  - Service
  - Construction
  - Integrated Contractors or “In-House” Contractors
Service Subcontracts Include:

- Water Delivery Services
- Lawn Services
- Furniture Moving
- Computer Services (hardware)
- Gas Cylinder Delivery
- Repair/Warranty
In-House Contractors Include:

- Chemical Laboratory Services
- Janitorial Services
- Life Support/Propellants
  - Respiratory Protection (SCBA, Level A)

The “In House” Contractor Fall Under the Same Requirements as the Host Employer

i.e., Process Hazard Analysis (PHA) teams, reporting of injuries
Construction Subcontracts Examples:
- Corrosion Control of Structures
  - Lead and other Heavy Metals, Silica
  - Asbestos
- Dredging
- Pressurized Systems- Storage Tanks, H2/HE Storage Batteries
- Piping and Tubing Replacement – Cross Country Lines
  - Fuels, Oxidizers
- Mechanical and Manual Lifting
- Communication Lines/Manhole Installation
- Fabrication/Installation
Managing Subcontractors at a PSM/VPP Site

- Pre-Approval Process
  - Contract Document
  - Safety Plan Requirements
  - Safety Performance Review
Contract Requisition System

- Requisitions
  - Construction Subcontracts
  - Service Subcontracts
  - In-House Contracts

Safety Review Required? (Yes/No)

- No further Safety input
Contract Requisition System (cont.)

Collect Documents

Documents include:
- Safety Survey form
- OSHA 300 logs
- Company Safety Plan

Safety Approved/Disapproved

Assist Subcontractor to meet compliance
- Safety Plan Template
- Intervention Plan Required
  - if Injury rates higher than industry average

Concurrence to Procurement
- Complete requisition

Subcontractor Evaluation
Pre-Approval Process for Subcontractors

Contract Document – SOW (statement of work)

Collaborate on a Document to Address Contractual Requirements Imposed on the Contractors.
Pre-Approval Process for Subcontractors

Collect Documents

• Company Safety Plan
• OSHA 300 Logs
• Internal Safety Survey form
Pre-Approval Process for Subcontractors

Safety Plan Requirements

1. Define Management Structure and Safety Responsibility

2. Obtain Contractor Basic Safety Programs
   - Hazard Communication
   - Respiratory Protection Program
   - Confined Space Program
   - Lockout/Tagout Program
Pre-Approval Process for Subcontractors

Safety Plan Requirements (cont.)

3. Define Specific Work Policies/Programs and Information the Contractor Provides to Their Employees

4. Address HOST Facility - Specific Safety Rules/Requirements and/or Contract Requirements… How will the Contractor Provide and Present to Employees?
Safety Plan Requirements (cont.)

5. Contractor Disciplinary Policy

6. Contractor Safety Training/Programs are Conducted to Employees and Training Implementation.

Pre-Approval Process for Subcontractors

Safety Performance Review

1. Contractor Disclosure
   - Injury & Illness Information for the Present Year & Past 2 Years
   - OSHA Violations

2. Worksite Inspections
   - Regular & Frequent
3. Programs & Training

4. Use of sub tiers
   - Injury & Illness Information
Assisting Subcontractors in meeting Stringent Safety Requirements

- Directing subcontractor to OSHA outreach program
- Directing subcontractor to OSHA
- Providing free workshops to local subcontractors through VPPPA region meetings
Contract Requisition System - Summary

- Company Policy – company wide implementation
- One system for purchasing service with ES&H integration
- Education of workforce regarding responsibilities/obligations
- Automation of approval process/documentation
- Partnership with Procurement and various departments
  - Capture escapes
  - Support integrity of process
Contract Requisition System – Lessons Learned

- Requisition Process

  • Long period between requester to safety review
    – Last minute contracts
    – Must have this contractor only

  • Revised information gathering process
Managing Subcontractors at PSM/VPP Sites

1. Employer Determine Health & Physical Hazards Related to Each Contract to Ensure Contractors Address and Comply to the Specific Safety Issues.

2. Site Safety Briefing - Address HOST Facility, Specific Safety Rules/Requirements and/or Contract Requirements
Managing Subcontractors at PSM/VPP Sites (cont.)

3. Annually, Ensure Contractors Submit Subcontractor Injury & Illness Rates. High Injury & Illness Rates are Addressed on an Individual Basis
   - New Contractors, Past three (3) Year Average

4. Require Contractors to Submit any updates to Comprehensive Safety Plan (renewed every 3 years)

5. Ensure Surveillance of Contractor Work by the Contract Employer
6. Establish a System to Address Performance Discrepancies Likewise.

7. Develop a Grading System to Evaluate Each Construction Contract to Reflect Contractor and also Employer Performance.
Managing Subcontractors at PSM/VPP Sites (cont.)

8. Any Contractor Safety Performance that Falls Below Average is Not Eligible to Bid New Contracts Until an Intervention Plan is Developed & Implemented

9. Communicate Safety Commitment to Contractor – Internal/External
   - Non-Compliance Will NOT Be Tolerated
10. Ensure PSM Information is Consistently & Adequately Provided to the Contract Employees
   – Address Training/Retraining
   – Address Literacy & Non-English Speaking Issues
     • Ensure Adequate Comprehension

11. Awareness of Process Changes
Lessons Learned

Consistency of the process across the board for all your contractors:

- objective choice system
- safety oversight management
Construction Activities

• Pose the Largest Challenges

• Largest Budget

• Could Account for Big Liability
Providing Subcontractor Oversight

• Ensure subcontractor Accountability

• Require subcontractors to Provide Full-time Safety Coverage on Designated Contracts

• Require subcontractors to Provide Certified Industrial Hygiene expertise on designated Contracts

• Evoke a Disciplinary Notice Policy to Address Non-Compliance Issues

• Provide a Report Card System Where Both Parties Evaluate Performance
Providing Contractor Oversight (cont.)

• The “Host” Company Must Provide Continuous Safety Contract Coverage at Each Construction Project
• Approve the Contractors to Perform Work
• Statement of Work & Design Reviews
• Field Changes
• Ensure Mishap Investigations
• Evaluation of Safety Performance – before, during and after
How do you manage 25 contracts at once?

Give basic safety training to the contract technical manager
How do you manage 25 contracts at once?

• You can’t be at all places at one time
• Usually the contract technical manager is the primary person who is on the jobsite the most
  – They want the job done right so oversight is continuous
How do you manage 25 contracts at once?

• Train Safety 101
  • Require them to fill out a checklist every time they are on sight for safety and health observation
  • Make sure you collect the data electronically so you have a record and can then score the performance of the contractor
  • Any questions, or concerns they should be calling you for inputs/help
How do you manage 25 contracts at once?

*Lessons Learned*

- Still working on the complete implementation of this process
- Pushback, misconception of what safety observations
- Working on electronic data collection
Summary

- PSM Requirements Compliment the VPP Requirements
- Provide Safety Consulting
- Define the Contractor Process
- Follow the Process
- Involve Safety Oversight Throughout the Contract
- Acknowledge Great Performance as Well as Poor
- Provide a Climate Where Following Safety Requirements Is First Priority, Schedule **DOES NOT** Drive SAFETY PERFORMANCE
Lessons Learned

– Integrate the Process Throughout the Various Departments i.e., Procurement, Engineering, Safety, Field Engineering, Facilities Managers, etc.

– Capture the requirements at the beginning of the process – not when the contract is required!

– Consistency for all contracts (construction/services)

– Be prepared for push back! – Communication is critical

– Automate as much as possible – Don’t be the hold up!

– There are always escapes! – Look for them

– Always being compared to other Prime Contractors
Provide safe, high-quality, best-value space operations, services and technologies to our customers.
QUESTIONS??
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THANK YOU!
• The 209-foot-tall, 110-foot-wide flag was first painted on the building in 1976 in celebration of the American Revolution bicentennial.

• 2004, the Kennedy Space Center was battered by two hurricanes in less than a month. The Vehicle Assembly Building lost 850 panels from the south exterior during Hurricane Frances, and 25 additional panels were pulled off the east side by the winds from Hurricane Jeanne just three weeks later.

• Painters' elevated platforms once again dangle high on the side of the 525-foot-high structure while workers use rollers and brushes to spruce up the flag and meatball -- not a task for the faint of heart.