Fall Prevention In Construction

Senior Management ViTS Meeting
July 7, 2014

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Building the future of U.S. Spaceflight means significant construction of new facilities and modifying existing ones.

Falls are the leading cause of fatalities and injuries on construction sites (over 200 killed and over 10,000 seriously injured annually).

OSHA conducted a Fall Prevention in Construction National Stand-down week – June 2-6

- More than 1 million workers and 25,000 businesses nationwide supported the events.

KSC’s significant fall mishaps / close call cases:

- KSC Roofing Fall Fatality (March 2006)
- VAB Fall from the 41st Floor mishap (October 2006)
- Fall from SLS Mobile Launcher close call (September 2009)
Incident:
- March 17, 2006, a roofing worker fell (17 feet) from a supply warehouse roof
- Worker died at the hospital of head injuries later that day
- Work being performed: Installing corrugated metal roofing panels

Events Contributing to the Fatal Mishap
- Workers not properly trained in fall protection
- Working at edge of roof without fall protection
- Only a safety monitor was used
- Safety monitor performed non-safety related work
- Contributing events were all OSHA non-compliances

Lessons Learned and Improvements:
- KSC needed consistent fall protection policies, training, and tracking
  ✓ Developed minimum fall protection standards
  ✓ Examined fall protection issues across the Center
- Improved surveillance, reporting, tracking, trending, and corrective action follow-up of construction safety incidents and non-compliances

http://llis.nasa.gov/lesson/2056
Vehicle Assembly Building (VAB)
Fall from 41st Floor Mishap (Oct 2006)

John F. Kennedy Space Center

Incident:

- Iron workers repairing damage to VAB from the 2004 hurricane season
- Iron worker (IW2) fell about 12 feet from a fixed ladder to a platform below the 41st floor of High Bay 4. IW2 struck another iron worker (IW1), knocking IW1 from the platform into open space.
- A fall of approximately 450+ feet was prevented by the proper use of a personal fall protection system
- Both workers had non-life threatening injuries and received outpatient care

Lessons Learned:

- “Am I Hooked Up?” fall protection awareness training video developed
- Video Quote, “If it wasn’t for those Monday morning safety talks, there is a chance I wouldn’t have been tied off... In all of those toolbox safety meetings, something sunk in enough for me to tie-off.”
- Proper use of fall protection systems “Saves Lives”

Am I Hooked Up? Video Link
http://llis.nasa.gov/lesson/5996
Incident:

- Iron workers were building base of the new Mobile Launcher (ML) Platform
- Self-Retractable Lifelines (SRLs) with newly available “Fall Limiters” were in use for personal fall protection
- An iron worker lost his balance and fell (from ‘A’ deck)
- The SRL, anchored above his head, stopped his fall in less than 4 feet
- Worker was saved from a fall of 8 feet to the decking or 30 plus feet to the ground
- Co-workers used a step ladder to rescue the worker who was suspended above the deck and uninjured

Lessons Learned:

- Both the contractor safety manager and the worker who fell briefed / reinforced to the entire site workforce, over the next two days, about the importance of proper personal fall protection
- Proper use of fall protection systems “Saves Lives”
NASA Construction Fall Prevention Summary

- NASA Fall Protection requirements (NPR 8715.3) cover specific program requirements to include training standards for users, competent and qualified persons.

- NASA Contracts require construction contractor comprehensive safety plans that include written fall protection programs and plans when working at heights.

- NASA Construction Safety programs are effective and “Save Lives.”