

## **FY09 1<sup>st</sup> Quarter Construction Contractor Safety Seminar**

**Mountain View Club, 2:00 – 4:00 PM**

**October 21, 2008 Meeting Minutes**

- Speakers:** General and Electrical Safety Updates: Greg Kirsch, ES&H Program Manager for FMOC, Dept. 4844, Office Phone: 845-9497, e-mail: [gckirsc@sandia.gov](mailto:gckirsc@sandia.gov)
- Construction Safety – The Government Perspective: Jim Todd
- Lessons Learned – Concrete Cutting Operations Contact Energized 120 Volt Conductors: Contractor Perspective
- Lessons Learned – Receptacle Supplying Power to Electric Welder Miss-wired Resulting in Electrical Shock: Contractor Perspective
- Lessons Learned – Construction Mechanical Subcontract Employee Climbs onto the Railing of a Scissor Lift, 25 feet in the Air without Fall Protection: Contractor Perspective
- Lessons Learned – Electrical Conduit Impacted during Roof Penetration Activities on Bldg. 892: Greg Kirsch
- Lessons Learned – Vehicle/Pedestrian Contact during GPS Activities Near Bldg. 880: Greg Kirsch
- Lessons Learned – Electricians Fail to Follow LOTO Requirements while Labeling Wires in De-energized 100 amp Electrical Disconnect in Bldg. 860: Contractor Perspective
- Safety Observations and Injury Summary: Greg Kirsch
- 01065 Spec Changes – List of Chemicals: Diane Morrell, Industrial Hygiene, Dept 4127, Office Phone: 284-9289, e-mail: [dmorrel@sandia.gov](mailto:dmorrel@sandia.gov)
- Lessons Learned – Three Subcontract Workers Exposed to Respirable Silica during Concrete Floor Grinding Operations: Contractor Perspective
- Lessons Learned – Prime Construction Subcontract Employee Damages 120 volt 20 amp Conductor, Tripping Breaker While Removing a Metal Wall Partition Base Strip: Contractor Perspective
- Office of Enforcement Visit: Greg Kirsch
- BBS Trends & Analysis (Jul - Sep 08): William Tierney, BBS Steering Committee, Office Phone: 845-0633, Pager: 530-1343, e-mail: [wjtier@sandia.gov](mailto:wjtier@sandia.gov)
- Safety Stars: William Tierney

### **Summary**

There were 63 attendees and 22 companies represented.

### **General and Electrical Updates: Greg Kirsch**

Greg stressed the importance of flowing down the information from these seminars to the workers in the field. There was one serious SNL event at the sled track this month. All work that utilizes “Cadwelding” or “Powder Actuated Tools” needs an assessment by submitting an addendum through the SNL Safety Plan process. See the PowerPoint slides for electrical safety update on the SNL/Lockheed Martin Kaizan of FMOC electrical safety.

## **Construction Safety – The Government Perspective**

Jim Todd, Assistant Manager of DOE/NNSA Sandia Site Office touched briefly on the following points. See the PowerPoint slides for more information.

- Flow down of requirements to all levels of subcontractors
- Construction requirements: OSHA 29 CFR 1926, NFPA-70# and ACGIH Standards
- Integrated Safety Management System (ISMS)
- Expectation: OSHA will be fully implemented and enforced. DOE has OSHA-like authority per the 10 CFR 851 to levy fines against Sandia for OSHA violations by Sandia or its subcontractors.
- Construction Safety Goal: Zero accident/injury rate

## **Lessons Learned: Greg Kirsch**

There were two new construction events and one construction recordable injury in the 4th Quarter of FY08. Greg Kirsch and the contractors presented lessons learned from eight events that have occurred in the 3<sup>rd</sup> and 4<sup>th</sup> quarters. See the PowerPoint slides for detailed information on each of these events.

- Concrete Cutting Operations Contact Energized 120 Volt Conductors
- Receptacle Supplying Power to Electric Welder Miss-wired Resulting in Electrical Shock
- Construction Mechanical Subcontract Employee Climbs onto the Railing of a Scissor Lift, 25 feet in the Air without Fall Protection
- Electrical Conduit Impacted during Roof Penetration Activities on Bldg. 892
- SNL Event FYI: Vehicle/Pedestrian Contact during GPS Activities Near Bldg. 880
- **\*\*4<sup>th</sup> Qtr\*\*** Electricians Fail to Follow LOTO Requirements while Labeling Wires in De-energized 100 amp Electrical Disconnect in Bldg. 860
- Three Subcontract Workers Exposed to Respirable Silica during Concrete Floor Grinding Operations
- **\*\*4<sup>th</sup> Qtr\*\*** Prime Construction Subcontract Employee Damages 120 volt 20 amp Conductor, Tripping Breaker While Removing a Metal Wall Partition Base Strip

## **Safety Observations Summary: Greg Kirsch**

Graphs were provided showing observations by OSHA 1926 Subpart and ES&H 01065 Specification categories, discipline trends, construction deficiencies and injuries for the period July - September 2008.

## **01065 Spec Changes – List of Chemicals: Diane Morrell**

In response to the HS-64 Audit, Diane presented SNL 01065 Specification changes regarding the submission of chemical inventories and MSDSs by contractors. See the Power Point slides for detailed information.

## **Office of Enforcement Visit: Greg Kirsch**

The Office of Enforcement (OE) will conduct an Integrated Program Review (regulator audit) at Sandia, scheduled for the week of Nov 3, 2008.

## **BBS Trends & Analysis (Mar – May): William Tierney**

William presented the BBS Data summary for July - September 2008. There were a total of 980 observations during this period.

**Closing**

Please contact Greg if you have any topics or comments for future safety seminars.

Please mark your calendars and plan to attend the future Quarterly Safety Seminars:

**Location:** Mountain View Club

**Time:** 2:00 – 4:00 PM

**Date:** January 20, 2009  
April 14, 2009  
July 14, 2009  
October 13, 2009

Meeting minutes and the presentation will be sent via email, and it is SNL's expectation that the information will be shared with employees and subcontractors. Please be sure to encourage attendance by your subcontractors. Advance notice is provided for these seminars to allow ample time to schedule attendance at these meetings, and reminders are sent out via the *Construction News Sense* and emails. The target audience is safety officers, superintendents, and foremen.



# ***QUARTERLY CONSTRUCTION SAFETY SEMINAR***

## **SNL FACILITIES**

**1<sup>st</sup> Quarter FY09**

**October 21, 2008**

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,  
for the United States Department of Energy's National Nuclear Security Administration  
under contract DE-AC04-94AL85000.



# Agenda

## October 21, 2008

- 2:00 PM Introduction – General and Electrical Safety Updates: Greg Kirsch
- 2:10 PM Construction Safety – The Government Perspective: Jim Todd
- 2:20 PM Lessons Learned – Concrete Cutting Operations Contact Energized 120 Volt Conductors: Contractor Perspective
- 2:25 PM Lessons Learned – Receptacle Supplying Power to Electric Welder Miss-wired Resulting in Electrical Shock: Contractor Perspective
- 2:30 PM Lessons Learned – Construction Mechanical Subcontract Employee Climbs onto the Railing of a Scissor Lift, 25 feet in the Air without Fall Protection: Contractor Perspective
- 2:35 PM Lessons Learned – Electrical Conduit Impacted during Roof Penetration Activities on Bldg. 892: Greg Kirsch
- 2:40 PM Lessons Learned – Vehicle/Pedestrian Contact during GPS Activities Near Bldg. 880: Greg Kirsch
- 2:45 PM Lessons Learned – Electricians Fail to Follow LOTO Requirements while Labeling Wires in De-energized 100 amp Electrical Disconnect in Bldg. 860: Contractor Perspective
- 2:55 PM 10 Minute Break
- 3:05 PM Safety Observations and Injury Summary: Greg Kirsch
- 3:15 PM 01065 Spec Changes – List of Chemicals: Diane Morrell
- 3:20 PM Lessons Learned – Three Subcontract Workers Exposed to Respirable Silica during Concrete Floor Grinding Operations: Contractor Perspective
- 3:30 PM Lessons Learned – Prime Construction Subcontract Employee Damages 120 volt 20 amp Conductor, Tripping Breaker While Removing a Metal Wall Partition Base Strip: Contractor Perspective
- 3:35 PM Office of Enforcement Visit: Greg Kirsch
- 3:40 PM BBS Trends & Analysis (Jul - Sep): William Tierney
- 3:50 PM Safety Stars: William Tierney
- 4:00 PM Closing: Greg Kirsch

# Incomplete Pre-job Analysis?





# General Updates

- The team has completed 10 very difficult months with one recordable accident (Laceration to the hand) .
- The difficult end of the year rush of projects were managed extremely well, need continued involvement by Industrial Hygiene.
- Lets ensure we start the FY well. Plan your work and flow down requirements and information.
- Continue to manage significant high hazards: falls/ladders, struck-by/hoisting, caught-between/heavy equipment, traffic safety and of course electrical.



# General Update

Serious event at the Sled Track:

- All work that utilizes “Cadwelding” needs an assessment through the addendum process
- All work that utilizes “Powder Actuated tools” needs an assessment through the addendum process



# Electrical Safety Update

- Sandia and Lockheed Martin conducted a joint evaluation and study (Kaizan) of FMOC electrical safety.
- Sandia has experienced an increase with FMOC construction subcontractor electrical safety issues including legacy electrical equipment/facility conditions and unanticipated electrical hazards.



# Electrical Safety Update

- All shocks were to **non-electrical workers**
- LOTO violations **not a significant contributor** to electrical events
- **Poor planning** was identified in almost all of the events
- Qualifications of the worker were **not an issue**
- Actual **electrical work was not in progress** in 10 of the 13 events
- **Demolition and modifications** were a significant factor
- **Dowcraft alterations** need to be managed with the knowledge of the potential electrical hazards



# Electrical Safety Update

- The clear challenge is that we as a team need to embrace the management of **all** electrical safety issues.
- The thresholds for electrical safety are changing for the better and we must understand them and continue to develop systems for continuing improvement.



# **Construction Safety – The Government Perspective**

**Jim Todd**  
**Assistant Manager**  
**DOE/NNSA Sandia Site Office**



# Requirements Flow down

- Sandia Corporation is the government's contractor to manage and operate Sandia National Laboratories (SNL)
- Requirements are established through Federal regulations and contract-specific requirements
- Requirements flow down to all levels of subcontractors



# Construction Requirements

- Basic requirement is OSHA 29 CFR 1926, with two significant additions
- Latest and most restrictive worker protection practices and standards
  - Require latest revision of NFPA-70E, vs. 1966 revision in 1926
  - Require latest revision of ACGIH standards for occupational exposures vs. 1970 standard in 1926



# Construction Requirements

- Integrated Safety Management System
  - The Sandia Safety Star
  - Applied across DOE as a proven method to reduce the frequency and severity of industrial accidents and injuries



# Expectation

- OSHA will be fully implemented and enforced by Sandia
- Per 10 CFR 851, DOE has OSHA-like authority to levy fines against Sandia for OSHA violations by Sandia or its subcontractors.



# Construction Safety Goal

- The goal is not to levy fines
- The goal is to move the construction contractor accident/injury rate towards zero, by implementing ISMS for all construction work, and to use enhanced OSHA to establish the minimum set of standards for worker safety.



# **Lessons Learned**

## **Concrete Cutting Operations Contacts Energized 120 Volt Conductors**

### **Contractor Perspective**





# SNL Event Description

- A penetration permit had been issued for the saw cutting activity.
- Site investigation (including drawing reviews) and spotting had been performed.
- Current technology used for spotting can identify high voltage lines but is less reliable for low voltage circuits when rebar is in floor.
- PPE is required by FMOC for all penetration activities because of the limitations of site investigation and spotting techniques.
  - The person performing the saw cutting activity was wearing required PPE (electrically rated gloves and boots) to provide protection for shock hazards.



# Contractor Perspective

- In order to install a new floor drain in the MER we needed to saw cut the floor.
- Permits were requested and spotting was accomplished.
- After spotting we noticed a conduit that appeared to be coming out of a panel and running in the slab towards the area we were going to saw cut. We notified SNL and they couldn't find the conduit so as precaution we locked and tagged out that circuit along with the one found.
- We developed a plan with the SNL, our cutting sub and ourselves that included electrically rated gloves, boots and LOTO.



# Contractor Perspective

- Prior to cutting we contacted our subcontractor to insure they had all the appropriate equipment when they arrived.
- Our sub showed with gloves, boots and no LOTO. We provided locks to the sub and the procedure was started.
- While saw cutting another unknown concealed conduit and conductors were cut resulting in a tripped breaker.
- Lessons Learned:
  - During the investigation after the incident it was found the sub didn't use a tag on his LOTO. When a sub doesn't have the appropriate equipment and you start supplying equipment make sure everything is double checked and accomplished appropriately.



# Contractor Perspective

- The gloves used by the sub were out of date. Always verify your subs equipment is in good working order.
- Even though a very comprehensive plan was put into place and the PPE worked appropriately to keep the personnel safe you must pay attention to the details. Good intentions are not a substitute for using the appropriate equipment .



# SNL Lessons Learned Statement

- Ensure personnel performing concrete coring or saw cutting operations possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.



# SNL Analysis

- Infrequently performed steps were performed incorrectly for **SNL operations**. The concrete coring subcontractor's two-man crew performing the saw cutting service did not know or understand requirements regarding annual inspection of electrically rated gloves. During interviews, both crew members identified that when performing saw cutting services they normally wear leather gloves and not electrically rated gloves with leather gauntlets.



# SNL Analysis

- The prime construction subcontractor had met with the crew scheduled to perform the saw cutting activity three weeks prior to the saw cutting activity being performed in order to plan the work. The prime told the crew during that meeting to ensure they brought electrically rated gloves and boots and LOTO equipment when they came to perform the work. Four working days prior to the saw cutting work being performed the prime called the saw cutting service provider and reminded the subcontractor to ensure the workers brought electrically rated gloves and boots and LOTO equipment.



# SNL Analysis

- When the workers arrived to perform the saw cutting activity they did not bring LOTO equipment, but did have electrically rated gloves. The prime contractor provided the workers with new locks (combination), but failed to provide tags. The Tool Box topics identify LOTO requirements and state that tags will be applied with locks.



# SNL Analysis

- Written Communication was Less Than Adequate and Incomplete/situation not covered to ensure compliance. The prime construction contractor verbally communicated the requirement to wear electrically rated gloves and boots during the saw cutting activity to the service contractor in a meeting and by phone prior to the work being performed. The coring service subcontractor's workers received training on the prime contractor's contract Specific Safety Plan. The Safety Plan identified that NFPA 70E requirements were to be followed for the project, but it did not specifically address **electrically rated glove annual inspection requirements.**



# SNL Recommended Actions

- Develop and implement appropriate methods to ensure service personnel have a clear understanding of the hazards and controls associated with the service they are providing. This may include additional **oversight** or **training** on OSHA, NFPA 70E, DOE and site specific requirements, to help ensure personnel possess the knowledge necessary to safely perform the task they have been contracted to provide.



# **Lessons Learned**

## **Receptacle Supplying Power to Electric Welder Miss-wired Resulting in Electrical Shock**

### **Contractor Perspective**



# Contractor Perspective

- To keep from having to run welder leads from a gas driven welder through the building we attempted to take advantage of an existing electrically powered welder located in the area. We requested and received permission from SNL to use their welder.
- The welder was missing a cord cap and we had our electrical subcontractor install a new cord cap.
- The electrical subcontractor did not have a journeyman in the area at the time so their PM, who was a journeyman, decided to wire the cap himself.
- The PM/Journeyman relied on his extensive background to wire the cord cap.



# Contractor Perspective

- Lessons Learned
  - It is easy to rely on our backgrounds and knowledge to accomplish simple tasks, but we should always follow proper procedure and check every task no matter how simple or repetitive it is. A continuity test on the cord cap after it was installed and a review of the NEMA configurations would have prevented this incident.
  - Always find out from the owner of the equipment if it is in good working order prior to utilizing the equipment.
  - Do a good PTP prior to accomplishing any job.



# SNL Lessons Learned Statement

- Involvement in tasks may interfere with the oversight role. Changing roles and responsibilities between oversight and hands-on work may result in a change in focus away from ensuring work is performed in accordance with all identified controls.



# SNL Analysis

- Inspection and/or Testing of work Less Than Adequate: Written description of event provided by the Electrical Subcontractor identified that the electrician connected the conductors to a four prong cord cap matching the receptacle where the contractor was going to plug in the welding equipment. The electrician determined the configuration of the receptacle and the cord cap to ensure they were in the same configuration and terminated the welding equipment cord, which had three #6 phase and one #6 ground conductors, into the cord cap. When the electrician attempted to assemble the cord cap (put the back on) the conductors would not bend into place.



# SNL Analysis

- The electrician removed the conductors from the cord cap and removed additional insulation to allow flexibility. The electrician then reconnected the welding equipment cord and finished assembling the cord cap. The electrician failed to perform a visual inspection or electrical test of the cord cap following the second termination to ensure terminations had been completed correctly. Visual inspection or electrical testing would have identified that one of the phase conductors had been terminated on the ground terminal, which resulted in the welding equipment case being energized.



# SNL Analysis

- Investigation identified that NEMA configuration for the receptacle selected by the contractor to provide power to the welding equipment was for three phase conductors and a grounded (neutral) conductor and did not have a termination point for a grounding conductor. The grounding terminal is normally identified with a green marking. This helps to ensure that the grounding conductor is terminated in the correct location. The green marking identifying the correct grounding conductor termination point provides a visual reminder to the installer and helps reduce the potential of miss-wire of electrical equipment.



# SNL Analysis

- Utilization of the correct receptacle and cord cap would have greatly reduced the potential for this incident.
- Direct supervisory involvement in task interfered with overview role: The electrician installing the cord cap has 10 years of experience as an electrician, but has worked primarily as a project manager (oversight position) during the past 5 years. The change in roles, from project manager to electrician, may have resulted in the former project manager becoming more focused on completing the task and less focused on ensuring the correct receptacle and cord cap were utilized for the welding equipment.



# SNL Analysis

- Use of government equipment (the welding equipment mis-wired by the subcontractor's electrician belongs to SNL/NM) is required to be documented in the contract. When Facilities Management and Operations Center Project Management agreed that the construction subcontractor could utilize the SNL welding equipment, the construction contract was not revised to authorize use of government equipment. Formalization of the process may have identified that the welding equipment had no cord cap, and there was no receptacle designated for the welding equipment in the area.



# SNL Analysis

- A clear understanding that the welding equipment was not currently set up for operation would have helped ensure more involvement by FMOC Safety or Electrical Engineering.



## **Lessons Learned**

# **Construction Mechanical Subcontract Employee Climbs onto the Railing of a Scissor Lift**

## **Contractor Perspective**





# SNL Event Description

- The foreman and journeyman were part of the four-person crew that was installing a 6-inch schedule 40 black steel heating water pipe through a roof penetration. The mechanical crew was having difficulty positioning the pipe into a pipe hanger. The foreman and one of the journeymen went up in the scissor lift to reach the hanger and position the pipe. After reaching the full height of the scissor lift (19 feet) the workers still could not reach the hanger. The journeyman then climbed onto the top guard rail of the scissor lift and the foreman climbed onto the middle rail and secured the pipe into the clamp thus securing the pipe in place.



# SNL Event Description

- A Construction Observer was on the job site and observed the two individuals standing on the scissor lift guard rails. The Construction Observer suspended the work activity and work was resumed utilizing a taller scissor lift located in the immediate area which enabled the workers to reach the pipe clamp in a safe manner.
- Shortly after this incident the Construction Observer identified the journeyman involved in the scissor lift incident performing work while standing on the top of an eight-foot ladder. The work was suspended.



# SNL Event Description

- After being notified of the second incident, the Prime Construction Subcontractor's Project Manager suspended all of the Mechanical Subcontractor's work at 11:15 am. The Project Manager held an all-hands site safety meeting and sent all workers on the site home at 2:00 pm.
- OSHA interpretation identifies that scissor lifts are considered to be work platforms and fall under the OSHA Scaffold Subpart L. OSHA requires that personnel be protected by a personal fall arrest system or guard rail system. When the worker climbed onto the guard rail without fall protection, the worker violated OSHA Subpart L requirements.



# Contractor Perspective

- Pre-task planning is an integral part of our CSSP and was being utilized and audited daily by us and our subs.
- Last year we utilized this same process and we had a very successful year.
- This incident proved an effective program can become ineffective over time especially with change of personnel.
- Lessons Learned:
  - The plan utilized for this lift was inadequate and created a situation where employees were making snap decisions to stop a potential accident.



# Contractor Perspective

- A well thought out PTP could have prevented the need for the Journeyman and Foreman to rush into the situation to secure the pipe.
- Our superintendent who had over 30 years of experience was trained in our PTP process but, he became complacent when reviewing PTP's.
- Since this incident we have retrained our employees, and our subs employees on how to effectively utilize a PTP and we have had no further incidents.
- No matter how strong your processes are they can become ineffective, so bring in outside help every so often to review your processes to ensure they are working.



# SNL Lessons Learned Statement

- One of the seven guiding principals of ISMS is that before work is performed, the associated hazards are evaluated, and an agreed-upon set of safety standards and requirements are established, which, if properly implemented, provide adequate assurance that workers are protected from adverse consequences. In this incident the contractor had identified that elevated work would be performed. The contractor provided ladders, scissor lifts, and fall protection equipment and training to workers. Work was not performed within the hazard controls identified for elevated work activities.



# SNL Analysis

- Both mechanical subcontract workers were aware of the requirements for working in the scissor lift and a taller scissor lift was in the immediate area that could have been used to perform the activity and would have reached the pipe clamp in a safe manner. This was determined to be a deliberate violation of OSHA fall protection requirements.



# SNL Analysis

- Job scoping did not identify special circumstances and/or conditions: Pre-planning did not identify that a taller scissor lift was in the immediate area. The taller scissor lift could have been utilized to complete the work activity and would have enabled the workers to reach the pipe clamp without climbing onto the rails.



# SNL Recommended Actions

- Provide adequate oversight and ensure workers have a clear understanding of management's expectation that work will be performed in accordance with the safety requirements identified for the activity and/or task that will be performed. Ensuring that workers having a clear understanding of management expectations is key to creating a safe work environment.



## **Lessons Learned**

# **Electrical Conduit Impacted during Roof Penetration Activities on Bldg. 892**

**Greg Kirsch**



# SNL Event Description

- Two Mechanical Subcontract sheetmetal workers cut into a ½-inch electrical conduit while using a sawzall with an 8-inch blade, to cut a 12-inch penetration (hole) in the metal roof decking of Building 892. The worker operating the sawzall noticed an increase in resistance and immediately suspended the cutting activity to investigate the cause.



# SNL Event Description

- After identifying that the conduit had been impacted the sheetmetal worker immediately reported the incident to the Prime Construction Subcontractor. The Prime Construction Subcontractor's superintendent contacted the Facilities Management and Operations Center (FMOC) Construction Observer and work was suspended.



# SNL Event Description

- The conduit contained two #12 conductors (phase and a neutral). The breaker protecting the circuit was a 120 volt, 20 amp circuit. Due to the immediate suspension of cutting activity when the worker felt the difference in resistance the conductors were not impacted as a result of the incident.



# SNL Event Description

- Actions Taken by Subcontractor Prior to Penetrating Roof:
  - Prior to beginning the cutting operation the Mechanical Subcontractor's sheetmetal workers performing the cutting operations performed an inspection/investigation of the penetration area to determine if there were any utilities in the penetration area. The inspection/investigation included inspection of the penetration area of the roof and below the ceiling. It also included making a small hole in the roof to identify any hidden hazards between the decking materials.



# SNL Event Description

- Actions Taken by Subcontractor Prior to Penetrating Roof (continued):
  - A pre-task checklist was completed identifying the penetration activity and controls and was signed by the sheetmetal workers, the Prime Subcontractor's Superintendent and the Safety Officer. A documented pre-task meeting was held. The penetration was discussed and the sheetmetal workers participated.



# SNL Event Description

- Controls Put in Place during Penetration Activity:
  - The sheetmetal workers wore safety glasses, hard hats and safety gloves that are coated with a polyurethane material. The sawzall is a double insulated tool, in good working condition, and was connected to a GFCI. Area below the penetration area was barricaded informing employees of overhead hazards.



# SNL Lessons Learned Statement

- Lack of attention to detail can result in unexpected consequences when performing roof penetration activities.



# SNL Analysis

- While performing the penetration the worker did not ensure that the sawzall blade was kept perpendicular to the roof. As a result the blade was angled, allowing it to come in contact with the ½-inch conduit. The worker suspended the activity before the conductors were contacted. The lighting circuit was not impacted.



# SNL Recommended Actions

- Share lessons learned from this incident reminding personnel performing penetration or excavation activities to focus on all identified hazards and controls when performing these activities.
- **Actions Taken:** Suspended penetration activities on site and held meeting to discuss the incident with all personnel performing penetration activities, stressing the need to remain focused on all identified hazards.



# Lessons Learned

## Vehicle/Pedestrian Contact during GPS Activities Near Bldg. 880





# SNL Event Description

- After completing a Global Positioning Systems (GPS) activity to locate utilities at the north end of Buildings 859 and 880, a Government-owned small pick-up truck (Dodge Dakota) driven by a staff augmentation subcontract GPS equipment/computer aided design and drawing (CADD) Operator made contact with a security service subcontractor Security Escort.



# SNL Event Description

- The small pick-up truck was parked between a construction contractor's truck located on the west side and a construction contractor's van on the east side. When the GPS/CADD Operator began to leave the site, a front end loader had parked directly behind and south of the small pick-up truck, blocking the exit path. A foreman from the construction company, that owned the front end loader, agreed to move the loader. The Foreman began backing the front end loader down the concrete path and the GPS/CADD operator followed (also in reverse) in the small pick-up truck. The GPS/CADD Operator estimated the truck speed at less than one mile per hour.



# SNL Event Description

- The Security Escort, assigned to escort the Foreman, stepped from behind the van located on the east side of the small pick-up truck to follow the Foreman. The Security Escort did not notice that the small pick-up truck was moving. The GPS/CADD Operator, driving the small pick-up truck, was looking at the front end loader through the driver side rear view mirror (west side of vehicle) and did not see the Security Escort step into the vehicles path from the east. The rear bumper of the pick-up truck made contact with the Security Escort, knocking the Escort off balance and to the ground. The GPS/CADD operator immediately stopped and exited the pick-up truck to check on the condition of the Security Escort.



# SNL Event Description

- The Security Escort was already getting up from the concrete pathway when the GPS/CADD Operator approached. Another Security Escort on site called the SNL Incident Commander on the radio, and IC and ambulance responded to the accident. The Security Escort declined services, but later went to SNL Medical at the request of the Escort's management. SNL Medical provided a wrap and ice for the Security Escort's left forearm and the Escort was released back to work with no restrictions.



# SNL Lessons Learned Statement

- Failure to perform a comprehensive evaluation of other vehicle and pedestrian traffic in the construction area results in an escort person moving into the path of a slow moving small truck and the driver of the small truck not noticing the escort person moving into the truck's path prior to striking the escort person with the bumper of the truck.



# SNL Analysis

- The escort for the front end loader operator was standing on the east side of a van which was located on the east side of the small GPS truck when the driver began to back the front end loader south to allow the GPS truck to leave the construction area. The escort started walking west and south to follow the driver of the front end loader. The pick-up driver did not see the escort move out from behind the van, and the escort did not notice that the pick-up truck was moving. This resulted in the escort walking behind the pick-up truck while it was in motion.



# SNL Analysis

- The driver of the pick-up truck looked both ways before beginning to back the truck south out of the construction area. The driver did not see the escort person escorting the operator of the front end loader because the escort was behind the van parked east of the small GPS truck. The driver began backing at a slow pace watching the front end loader through the driver's side mirror. The driver did not see the escort move out from behind the van, and the escort did not notice the pick-up truck backing down the same path of the front end loader. This resulted in the pick-up truck striking the escort when the escort walked into the path of the truck.



# SNL Analysis

- Communication between workgroups was less than adequate: Prior to moving, the front end loader operator and the pick-up truck driver did not inform the escort of the vehicle that moves were taking place. This resulted in the escort, who was focused on the front end loader operator that the escort person was escorting, moving into the path of the pick-up truck and being struck by the back bumper. The escort was knocked to the ground.



# SNL Recommended Actions

- Focus on the fact that most construction sites are busy with multiple activities involving multiple crafts and employers and this requires that everyone **stay focused and look for moving heavy equipment**, vehicle and pedestrian traffic prior to entering or exiting the construction area. Communicate with workers in the area and **keep your eyes open** to ensure your safety and the safety of those around you.



## **Lessons Learned**

**Electricians Fail to Follow LOTO Requirements while Labeling Wires in De-energized 100 amp Electrical Disconnect in Bldg. 860**

**Contractor Perspective**



# SNL Event Description

- A FMOC Construction Observer performing a field walkthrough, observed two FMOC Electrical Subcontract electricians in the limited approach boundary of an open 480 volt, 100 amp disconnect. The 100 amp disconnect was in a de-energized state and the Construction Observer questioned the electricians concerning LOTO. The Observer identified that although there was a LOTO lock on the bus duct switch that supplied power to the electrical disconnect, it did not belong to the electricians performing the work. The Construction Observer also determined that the electricians had performed a zero voltage test prior to performing work in the 100 amp disconnect, but did not wear required NFPA 70E PPE while performing the test.



# SNL Event Description

- The Construction Observer suspended the work activity and followed the FMOC event notification process to report the NFPA 70E PPE and LOTO violations.
- Investigation: The conductors being labeled and terminated in the 100 amp disconnect were installed during a planned electrical outage on August 2, 2008. The LOTO lock that was on the bus duct switch at the time of the incident belonged to the Electrical Subcontractor's foreman and had been installed following the outage because the duct heater (load) had not been connected to the disconnect.



# SNL Event Description

- The electricians were wearing safety glasses and hard hats at the time of the incident.
- This incident was not identified as a near miss because personnel were not exposed to electrical energy as a result of the LOTO violations.



# Contractor Perspective

- Incident Investigation
  - LOTO multi-hasps were not installed
  - Foreman was not readily available
- Lessons Learned
  - Multi-hasps will be placed on every LOTO circuit



# Contractor Perspective

- Mitigations
  - Disciplinary Measures
  - LOTO Program Revision
    - Updated to include shift change procedures
    - User friendly
  - LOTO Re-Fresher Training
  - LOTO Procedures Badge
  - Resource Contact Badge Update



# SNL Analysis

- Planning not coordinated with inputs from walkdowns/ task analysis: Supervisor gave direction over the phone instead of performing walkdown/task analysis with foreman and journeyman. This resulted in the fact that the supervisor had applied a lock and tag to the bus duct breaker but did not utilize a hasp which would have allowed the electrical workers to install additional locks and tags. When the workers identified that no additional locks could be installed they determined that the electrical hazard was in a safe condition and they could observe anyone access the ceiling where the bus duct breaker was located, therefore the work could be performed safely.



# SNL Analysis

- OSHA 29 CFR 1910.147(d)(4)(i) - The Control of Hazardous Energy (Lockout/Tagout) - Lockout or tagout device application states that "Lockout or tagout devices shall be affixed to each energy isolating device by authorized workers" with the authorized worker defined as "a person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment." A group lockout/tagout, where multiple workers can work under the protection of a supervisor's lock and tag is only allowed when following a written procedure that meets the requirements of 1910.147 (f)(3)- Group lockout or tagout.



# Ambiguous instructions/ requirements:

- Although the subcontractor's safety plan did identify that each person was required to install their own lock and tag to protect them from electrical hazards it did not contain adequate detail regarding LOTO shift change and electrical PPE requirements to ensure the work was performed in a compliant manner.



# SNL Recommended Actions

- If shift change LOTO activities will be performed LOTO documentation, worker training, and pre-task planning should provide adequate details to ensure work is performed in a safe and compliant manner.



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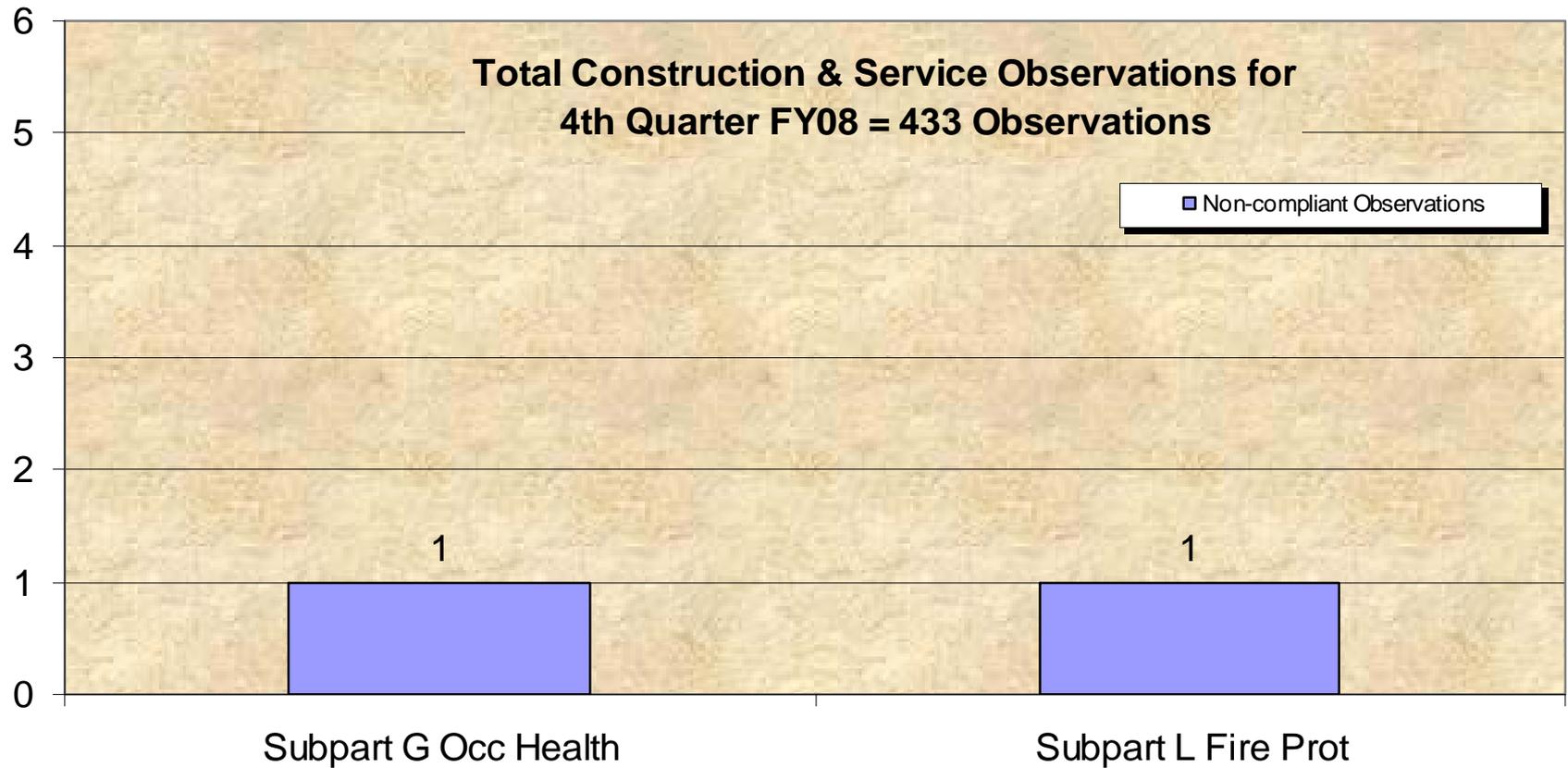
# 10 Minute Break



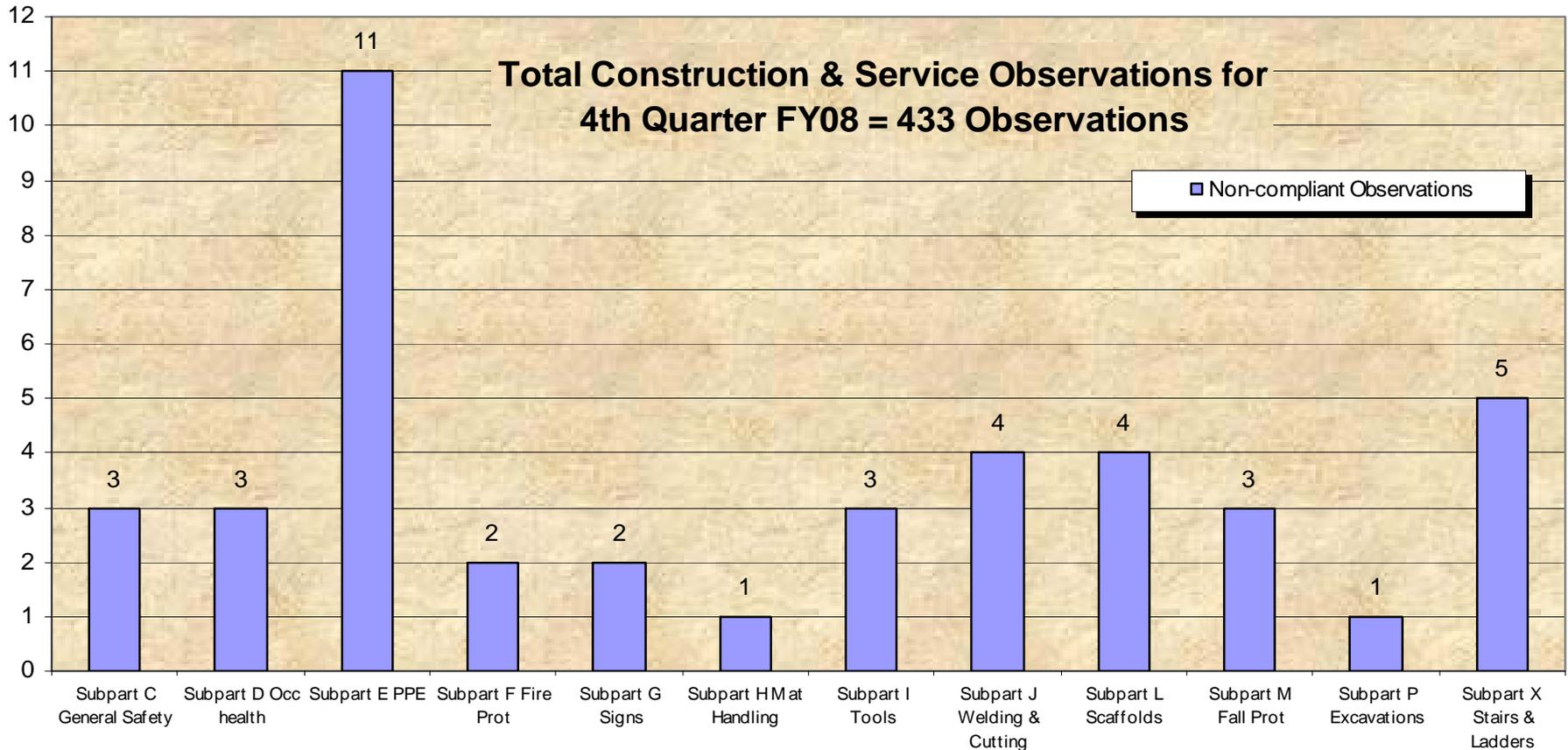
# **Safety Observations Summary**

**Greg Kirsch**

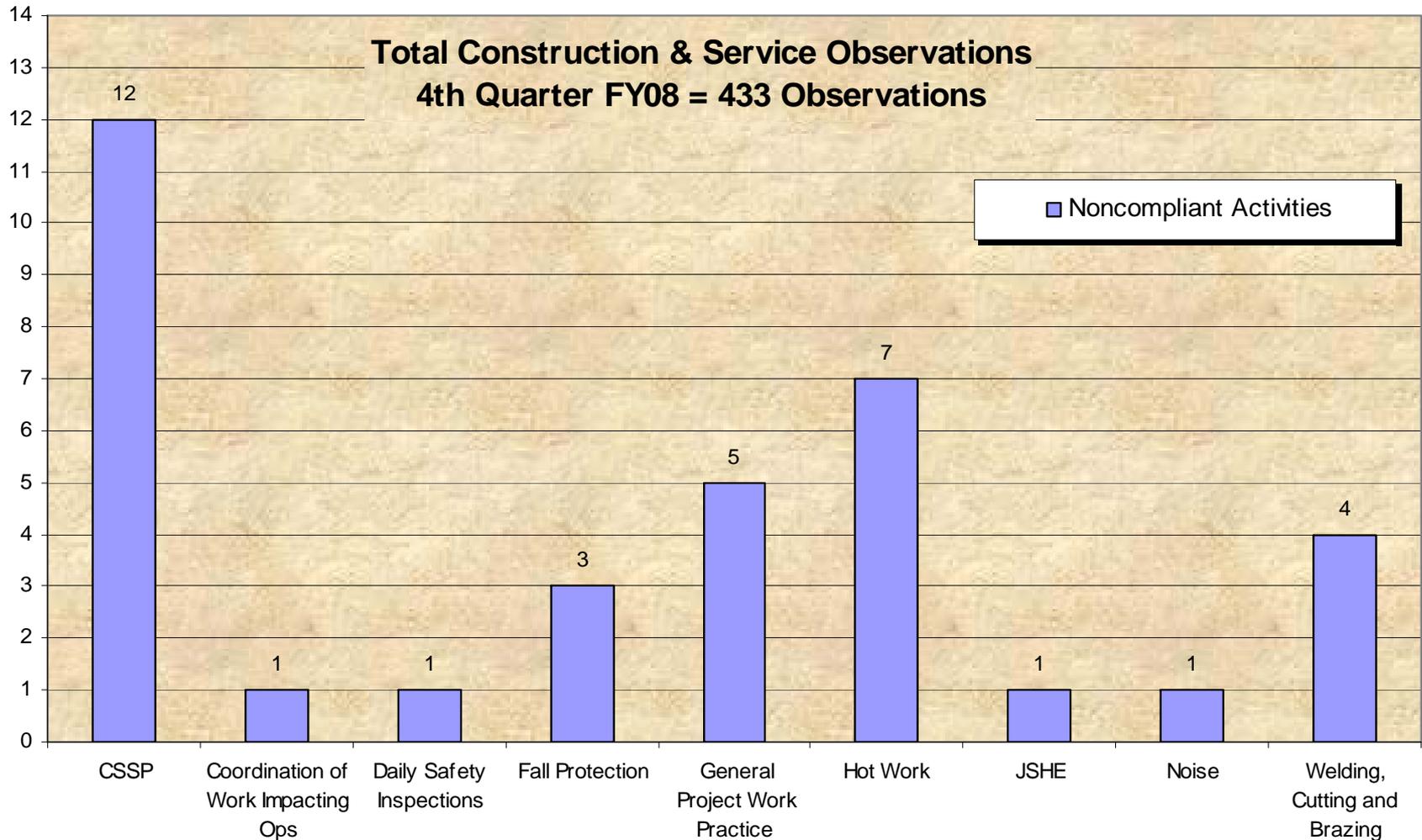
# Non-compliant Observations OSHA 1910 for Jul - Sep 2008



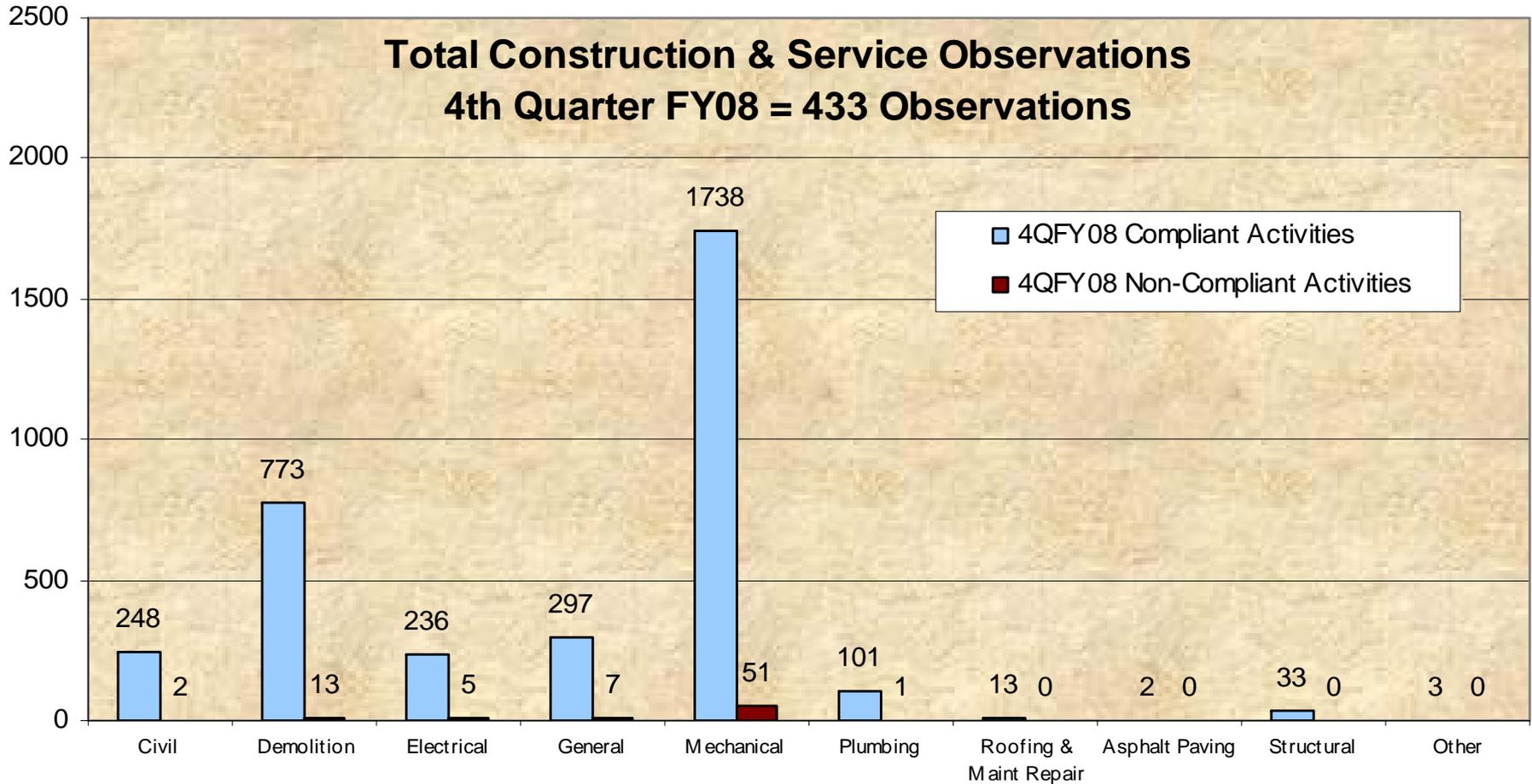
# Non-compliant Observations OSHA 1926 for Jul - Sep 2008



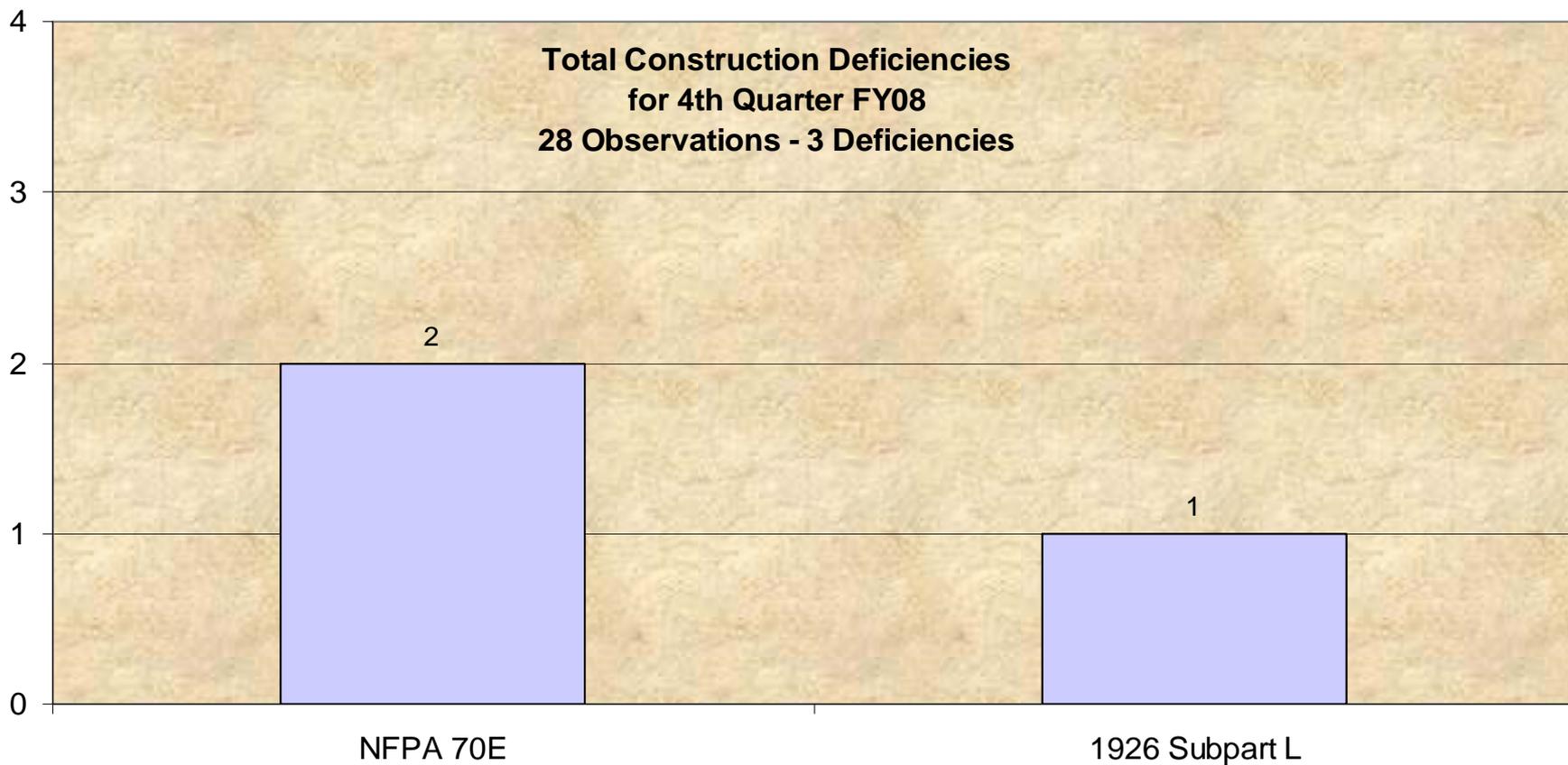
# Non-compliant Observations 01065 Spec for Jul – Sep 2008



# Compliant vs. Non-compliant Observations by Discipline Jul - Sep 2008

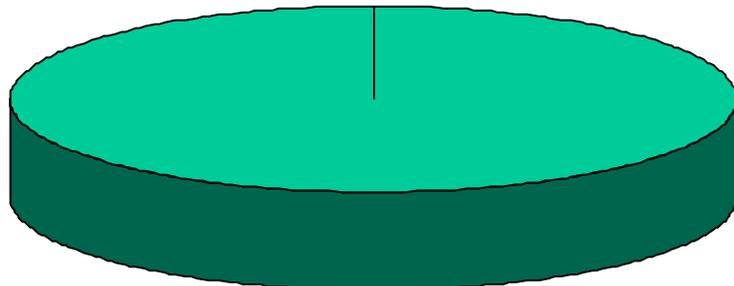


# Construction Observations Jul - Sep 2008



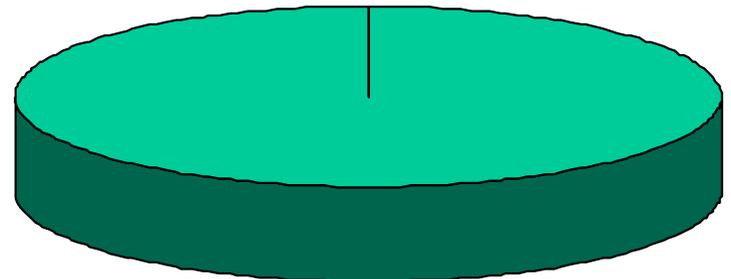
# First Aid Injuries Type and Behavior

Recordable Injuries Q4 FY08  
Type of Injury



Laceration  
1

Recordable Injuries Q4 FY08  
Type of Behavior



Line of  
Fire, 1

**At least they're wearing gloves**





---

# Hazard Communication 1065 Specification Change

**Diane Morrell**



# Why We Changed the Specification

- In response to the HS-64 audit, we have to tighten the requirements for submission of chemical inventories and MSDSs by contractors
- Main purpose is to evaluate potential exposures to Sandia's collocated workforce or bystanders



# Changes to Specification

- CSSP must include:
  - An inventory of all chemicals or chemical products anticipated for use on the project/site. Can be specific to identified scope of work or for entire potential scope of work
  - Does not need to include typical consumer products used in the same quantity and manner a consumer would use them (e.g., Windex, Simple Green, WD-40 etc.)
  - Hazard mitigation and control measures to prevent exposure to Sandia staff or other contractors



# Review Criteria

- An IH reviews and evaluates inventory, MSDS submittal, and hazard mitigation and controls as part of CSSP review.
- Requirement is in the 01065 specification and will be evaluated.



## **Lessons Learned**

# **Three Subcontract Workers Exposed to Respirable Silica during Concrete Floor Grinding Operations**

## **Contractor Perspective**



# SNL Event Description

- While performing oversight compliance monitoring of a subcontract floor resurfacing project, the Sandia National Laboratories (SNL) Industrial Hygienist (IH) supporting Facilities Management and Operations Center (FMOC) identified that three of four subcontract workers were exposed to respirable silica dust exceeding the assigned protection factor of the 1/2-face air purifying respiratory protection (10 times TLV) worn while performing grinding operations (grinding, vacuuming, and vacuum filter cleaning).



# SNL Event Description

- The subcontractor had identified that grinding of the concrete floor would be part of the resurfacing activity. The following controls were identified:
  - 1) grinder with vacuum attachments (boot attachment);
  - 2) high efficiency filters would be used in the vacuum;
  - 3) PPE would include:
    - a) 1/2-face respirators with P100 cartridges,
    - b) ear plugs,
    - c) safety glasses,
    - d) hard hat, and
    - e) leather gloves, while performing the grinding operation.



# SNL Event Description

- The oversight compliance monitoring was performed on June 17, 2008. Samples were sent to the lab for analysis on June 18, 2008 and results were received by SNL IH on June 23rd. SNL IH performed calculations and determined that three of the four workers performing the grinding activities (grinding, vacuuming, and vacuum filter cleaning) had received exposures to respirable silica dust that exceeded the assigned protection factor of the 1/2 - face air purifying respirator provided by the subcontractor.



# SNL Event Description

- All four of the workers were exposed to respirable silica in excess of the ACGIH TLV for silica. The 1/2-face respirators worn by the subcontract workers provide a protection factor of 10 times the TLV and calculations identified the exposure to be approximately 14 times the TLV.
  - TLV for Respirable Silica Dust: 0.025 mg/m<sup>3</sup>
  - Protection Factor 10X TLV: 0.25 mg/m<sup>3</sup>
  - Worker #1: 0.36 mg/m<sup>3</sup>
  - Worker #2: 0.32 mg/m<sup>3</sup>
  - Worker #3: 0.24 mg/m<sup>3</sup>
  - Worker #4: 0.36 mg/m<sup>3</sup>



# SNL Event Description

- Initial investigation identified that the subcontractor has a respiratory protection program that meets the intent of 29 CFR 1910.134, including:
  - 1) written program
  - 2) medical evaluations
  - 3) fit testing, and
  - 4) training
- Based on observation of the activities by the IH tech performing the air sampling, the controls appeared to be effective during grinding, but techniques used for emptying the vacuum and cleaning the filters resulted in visible airborne dust generation. The contractor actions followed requirements.



# Contractor Perspective

- A higher than expected amount of silica dust was generated during the concrete floor grinding activity. This occurred during the cleaning out of the HEPA Vacuum Filters as visible airborne dust was generated.
- Controls for this clean-up activity were missed in our Safety Plan. As a result the work was stopped, the situation was re-evaluated, and new controls were added before work activities were resumed.



# SNL Lessons Learned Statement

- Clean-up activities are often missed as a hazardous activity when hazard controls are being developed. In this case, vacuums and PPE were utilized during floor grinding operations to reduce workers exposure to silica. Their controls were appropriate and worked well during the floor grinding operation, but PPE did not provide adequate protection during vacuum cleaning/emptying operations.



# SNL Analysis

- Investigation into the incident identified that the method utilized by the workers to clean the filters and dump the material collected in the vacuums was believed to be the activity that had the highest contribution to the overexposures received by the three workers. Workers were removing the filter from the vacuum, taking the filter over to a plastic bag, shaking the filter and hitting the filter on the side of the bag to clean the dust from the filter, replacing the filter into the vacuum, and resuming grinding operations. They were also dumping the material from the vacuum into the plastic bags. Both of these activities were generating visible airborne dust.



# SNL Analysis

- The contractor identified that "normal" floor preparation activities would require the use of hand grinders around the edge of the floor or obstructions and a bead-blaster would be utilized for the open areas of the floor surface. In this case, the bead-blaster was not utilized because it was difficult to lift onto the mezzanine floor area. As a result, the hand grinders were utilized for the entire surface, which took approximately 6 hours. Use of the bead-blaster would have reduced the exposure time, the number of times the filters for the vacuums attached to the hand grinders were shaken clean, and the vacuum reservoirs were emptied.



# SNL Analysis

- This would have reduced the potential for an overexposure and the 1/2-face respirators used would have provided adequate protection to workers performing the activity.



# SNL Recommended Actions

- When concrete grinding operations are scheduled ensure clean-up operations are included in the work activity hazard analysis and control development process. This will reduce the potential for overexposures during grinding activities.



## **Lessons Learned**

**Prime Construction Subcontract  
Employee Damages 120 volt 20 amp  
Conductor, Tripping Breaker While  
Removing a Metal Wall Partition Base  
Strip**

**Contractor Perspective**



# SNL Event Description

- On July 31, 2008, a Construction Prime Subcontract carpenter damaged the insulation on an energized #12 conductor, grounding the conductor and tripping the breaker. The Prime Construction Subcontractor's crew, consisting of one foreman and a carpenter (non-electrical workers), had begun work on a remodel project that involved the removal of metal wall sections. The carpenter had already removed some base plates and cap strips that did not contain electrical receptacles or switches.



# SNL Event Description

- Electricians working for the electrical subcontractor came on site to de-energize the electrical components in the wall sections identified for removal/relocation and warned the carpenter not to remove the remaining base plates until the circuits were identified, de-energized, and locked and tagged out.
- The carpenter noticed that the metal “chair” (support device) holding the metal partition, located above the next section of base plate to be removed, was going to be in the way when it was time to remove the base plate.



# SNL Event Description

- Thinking the “chair” could be tapped down safely, the carpenter placed a screwdriver on the side of the “chair” and began tapping it with a rubber hammer. With the “chair” moved down, the base plate would be ready for removal as soon as the electrical circuits were identified, de-energized, and locked and tagged out. It was during this process that the energized conductor running through the bottom trough (identified as an electrical raceway) of the metal wall partition was pinched between the wall panel and the metal chair resulting in the short circuit.



# SNL Event Description

- The base strip and sections of Dowcraft wall partitions were located in Building 802, Room 2344, and were being removed and relocated as part of an office remodel project. The pinched conductor supplied power to a 120 volt 20 amp receptacle located in the base strip that the carpenter was preparing to remove. The tripped breaker was a 20 amp single-pole, located in Panel P2D, circuit number 19.



# SNL Event Description

- This incident was not identified as a near miss of a shock because the wall partition was grounded (at multiple points) and no one was in contact with the metal partition during the work activity. There was no impact to personnel, the environment or line operations as a result of the incident.



# Contractor Perspective

- The situation had obvious hazards with outlets in plain view and the crew having been warned by the electricians.
- The carpenter who caused the short has approximately one year of service with the company.
- The carpenters main focus was on working efficiently and completing the project on time with no other reason for not following LOTO procedures.



# Contractor Perspective

- We have ensured that all of our field employees have the appropriate LOTO equipment and have also followed-up with additional in house LOTO training. LOTO will remain an important topic that is revisited at our company safety meetings and will be emphasized during new employee orientation.
- Finally, both the foreman and carpenter have received written reprimands for allowing/putting themselves in a hazardous situation.



# SNL Lessons Learned Statement

- Non-electrical worker does not take advantage of the experience and knowledge of electrical workers on the project to help identify controls necessary to ensure the non-electrical worker is performing work around electrical hazards in a safe manner.



# SNL Analysis

- Based on previous experience removing and relocating metal wall panels, the carpenter determined that moving the support, less than an inch, in preparation for base and wall panel removal, which would be performed following de-energization and LOTO of 120 volt electrical circuit feeding the electrical receptacles in the next base plate, could be performed without impacting the electrical conductors. Methods utilized by the carpenter were not adequate to ensure electrical conductors were not impacted.



# SNL Analysis

- The electrical subcontractor electricians discussed the hazards associated with any continued work on the metal wall partitions when they arrived on the job and began their investigation to identify the circuits feeding the receptacle in the base plates. Once the circuits were identified they would be de-energized and lockout/tagout would be performed. The carpenter did not discuss the decision to tap the chair located in the bottom track of the metal panel system. The electricians may have cautioned the carpenter against performing the task, and this incident would have been prevented.



# SNL Recommended Actions

- Often electrical hazard training focuses on electrical workers, who have the highest exposure and, as a result, have the highest potential for shock or arc flash burns. But it is important to ensure non-electrical workers performing activities that have the potential to expose the worker to electrical hazards should receive good electrical hazard awareness training to ensure they have a clear understanding of the hazards and controls associated with the work activity being performed.



# Office of Enforcement Visit

**Greg Kirsch**



# Office of Enforcement visit

- The DOE Office of Enforcement (OE) will conduct an Integrated Program Review (regulatory audit) at Sandia, scheduled for the week of Nov. 3, 2008.
- The OE generally conducts a Program Review at each site every four years.
- The FMOC portion will focus on integrated program review will be our first one to cover 10 CFR 851, *Worker Safety and Health*. Potential areas of interest are Electrical Safety, Occupational Exposure Assessments, LOTO, Pre-work Planning.



# BBS Behavior- 4th Qtr FY 2008 Data Review

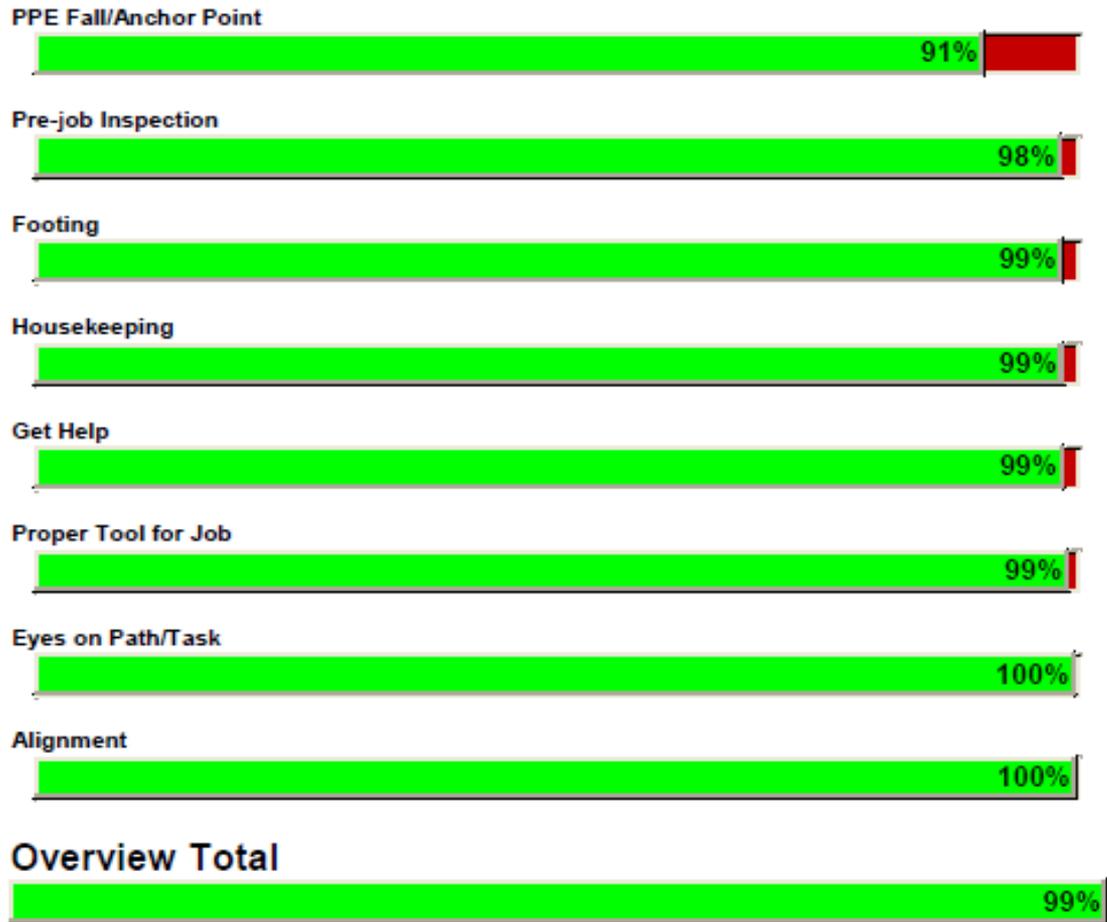


Sandia National Laboratories

William Tierney

10/21/08

# 4th Qtr Data Summary





# 4th Qtr Data Summary

- July-September
- Total of 980 Observations
- Overall % Safe= 99% (99% last qtr)
- Lowest % Safe
  - PPE Fall/Anchor-91% (99% last qtr)
- Improvements
  - Housekeeping 99% (98% last qtr)
  - Alignment-100% (99% last qtr)

# Lowest Safe Example



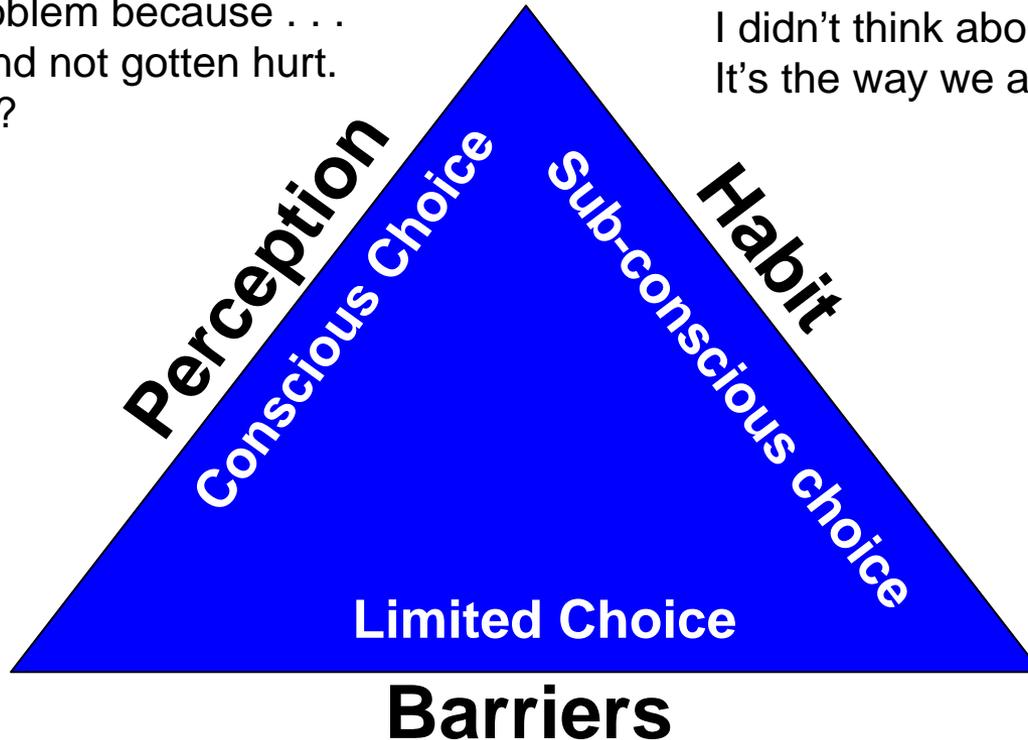
# Lowest Safe Example



# Data Categorization

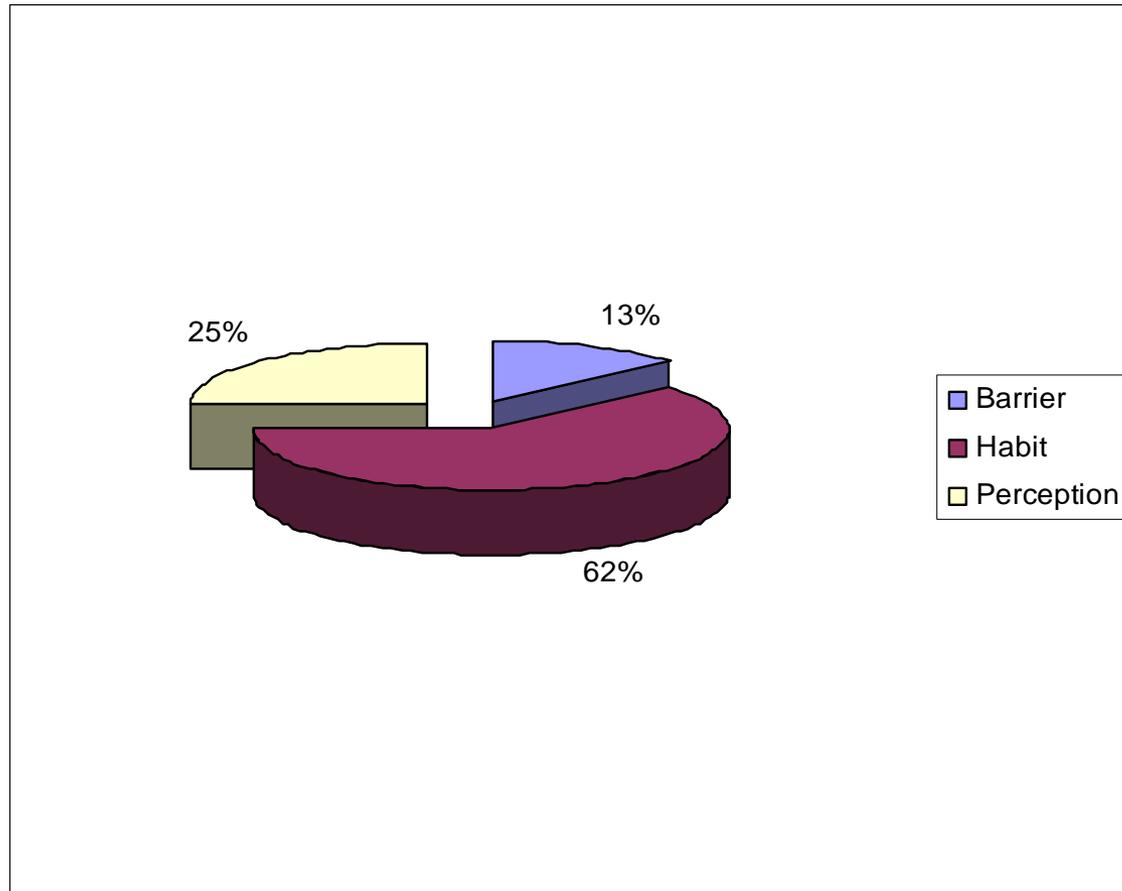
In my opinion . . .  
In my experience  
I don't think it's a problem because . . .  
I've done it before and not gotten hurt.  
What's wrong with it?

That's the way I always do it!  
I don't know.  
I didn't think about it.  
It's the way we always do it around here



I can't do it any other way because . . .  
It would be difficult to do it that way because . . .  
If I do it that way, (this would happen).

# Data Categorization June-August

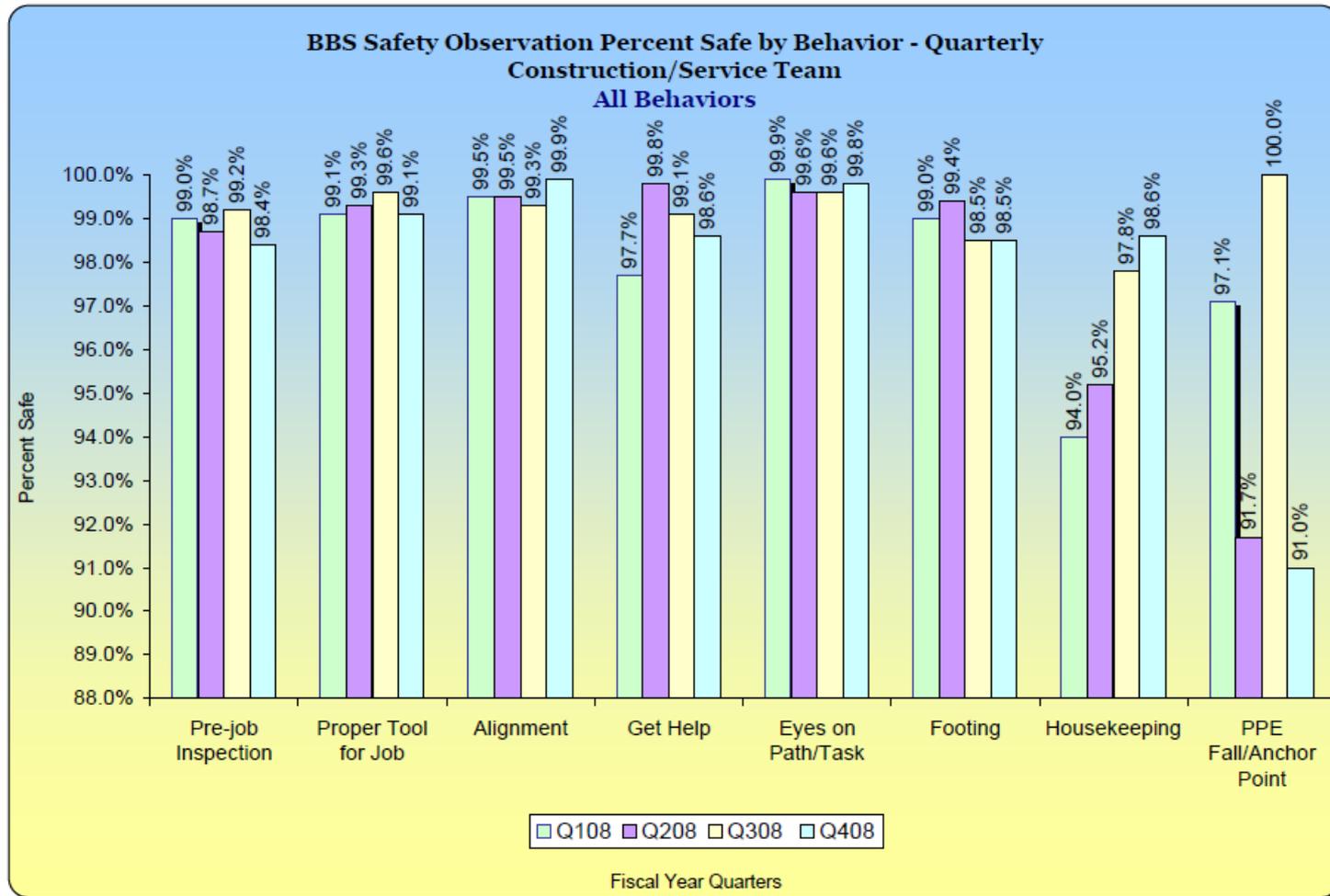




# Data Analysis

- Habit was first category (same last month)
  - Highest number of concerns: PJI, Footing, and Housekeeping
- Perception was second category (same last month)
  - Highest number of concerns: PJI
- Barrier was third category (same last month)
  - Highest number of concerns: Proper Tool, PJI

# BBS Data-LTD



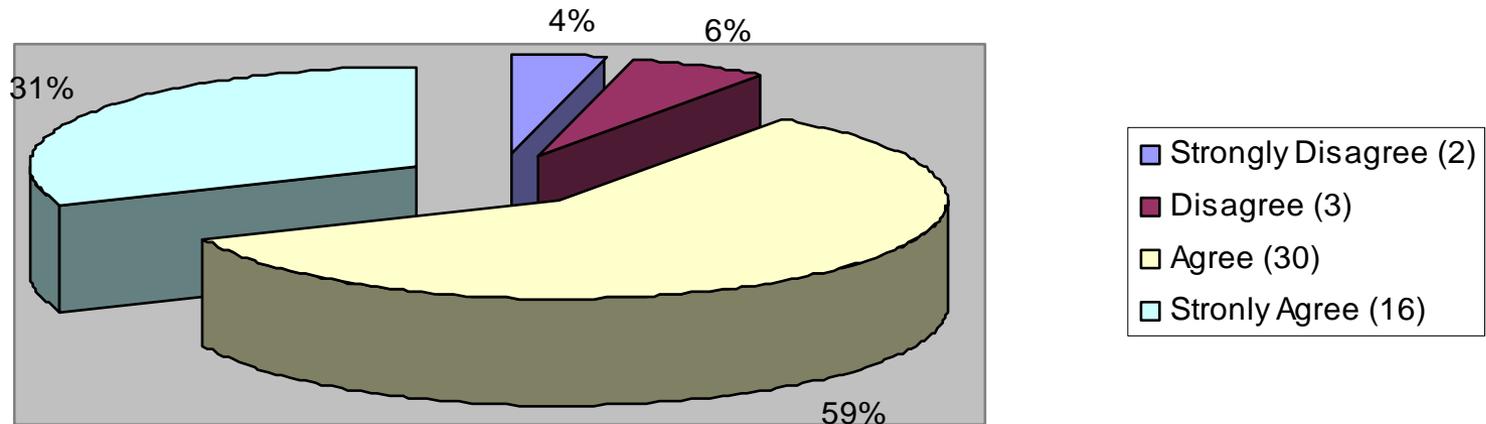


# Contractor Survey Results

- Sent survey to all contractors in June 2008 regarding SNL BBS program
- Anonymous
- Comment section
- Received 51 completed surveys
- Overall results were Agree/Strongly Agree

# Contractor Survey Results

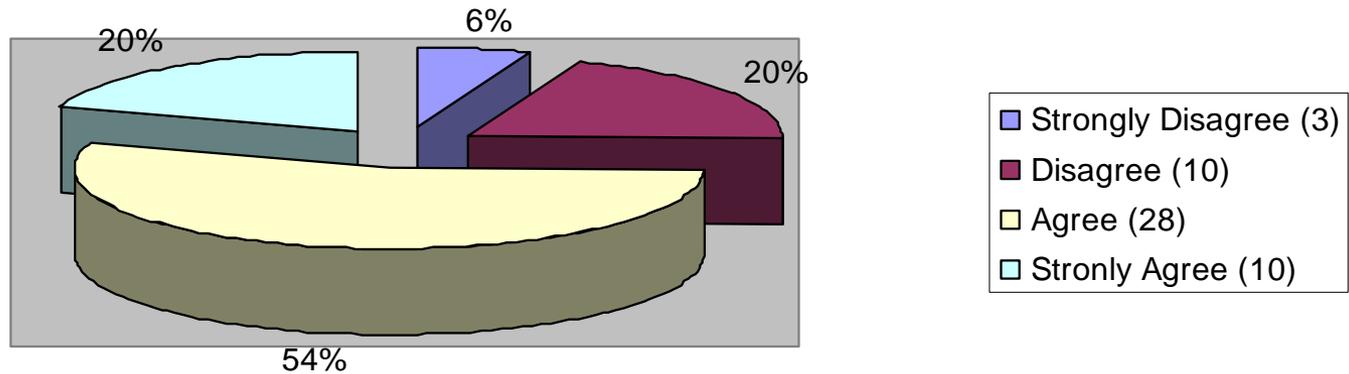
**Item 1**  
**I am familiar with the SNL BBS program**



# Contractor Survey Results

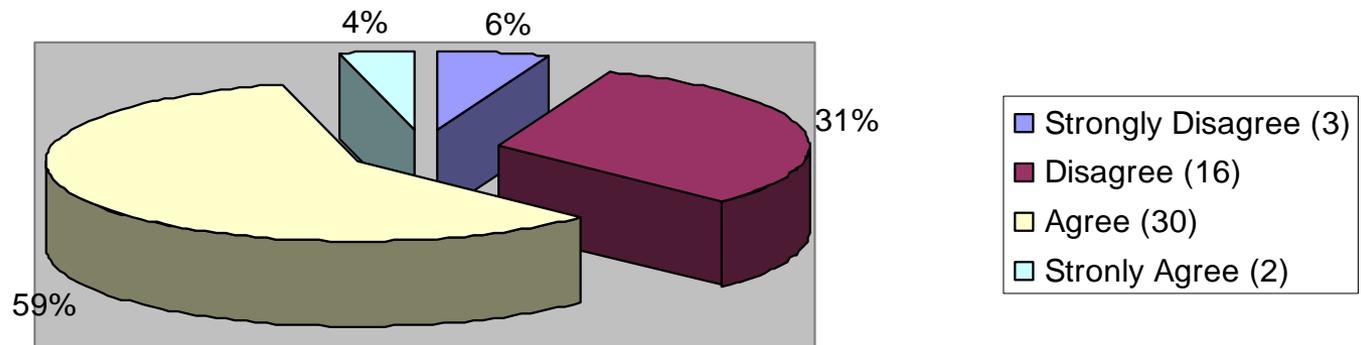
## Item 2

I believe SNL BBS is improving overall construction safety at SNL



# Contractor Survey Results

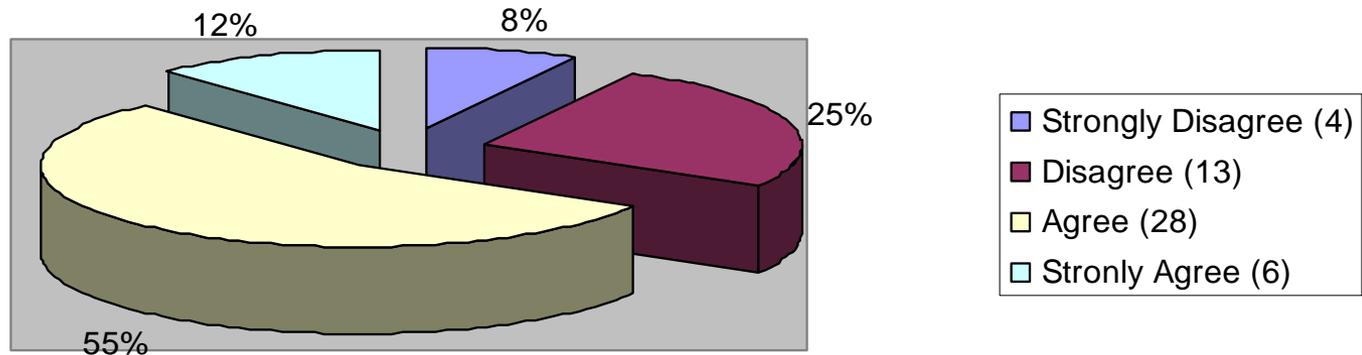
**Item 3**  
**I believe SNL BBS observations are changing individual behaviors in a positive way**



# Contractor Survey Results

## Item 4

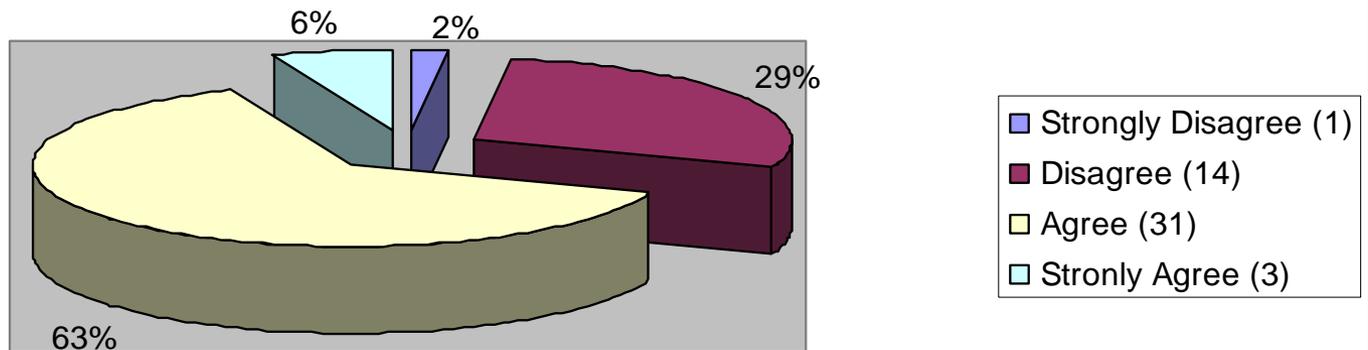
I believe that SNL BBS has made a difference in how I perceive many of my own behaviors at home and/or at work



# Contractor Survey Results

## Item 5

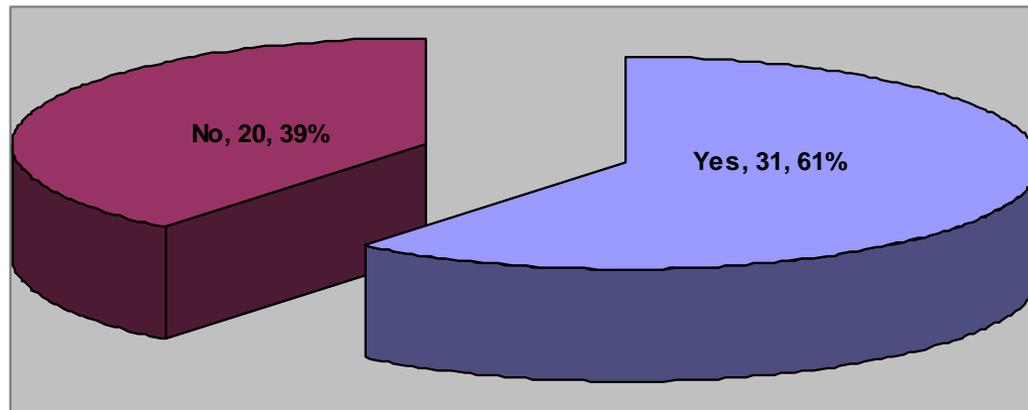
I believe that SNL BBS data is not being used in a punitive way against my company



# Contractor Survey Results

## Item 6

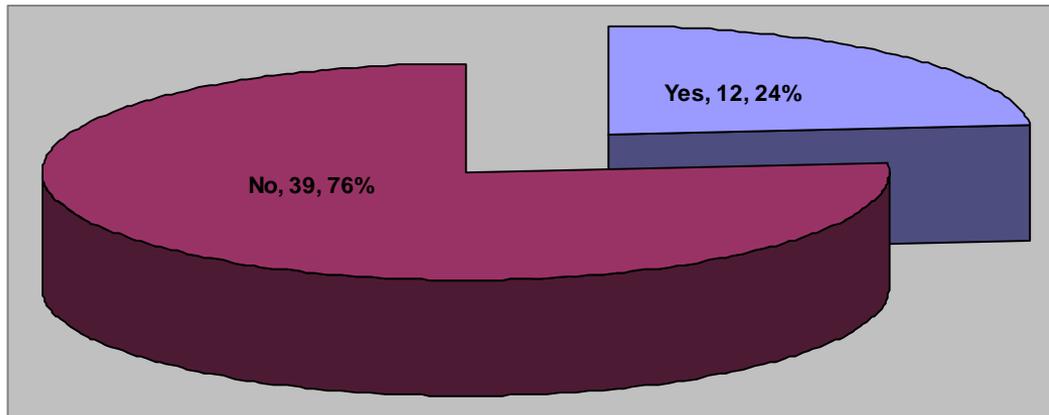
I have had an SNL BBS observation performed on me



# Contractor Survey Results

## Item 7

I have an SNL BBS observation performed on me at least once a month





# BBS Program Updates

- Contractor Pilot Program
  - Pilot program completion June 2008
  - Contractual requirements provided to Procurement for incorporation into RFQ



# Safety Stars

**William Tierney**



# Closing Announcements

# Construction Safety Seminar Schedule

**Location: Mountain View Club**

**Time: 2:00 – 4:00 PM**

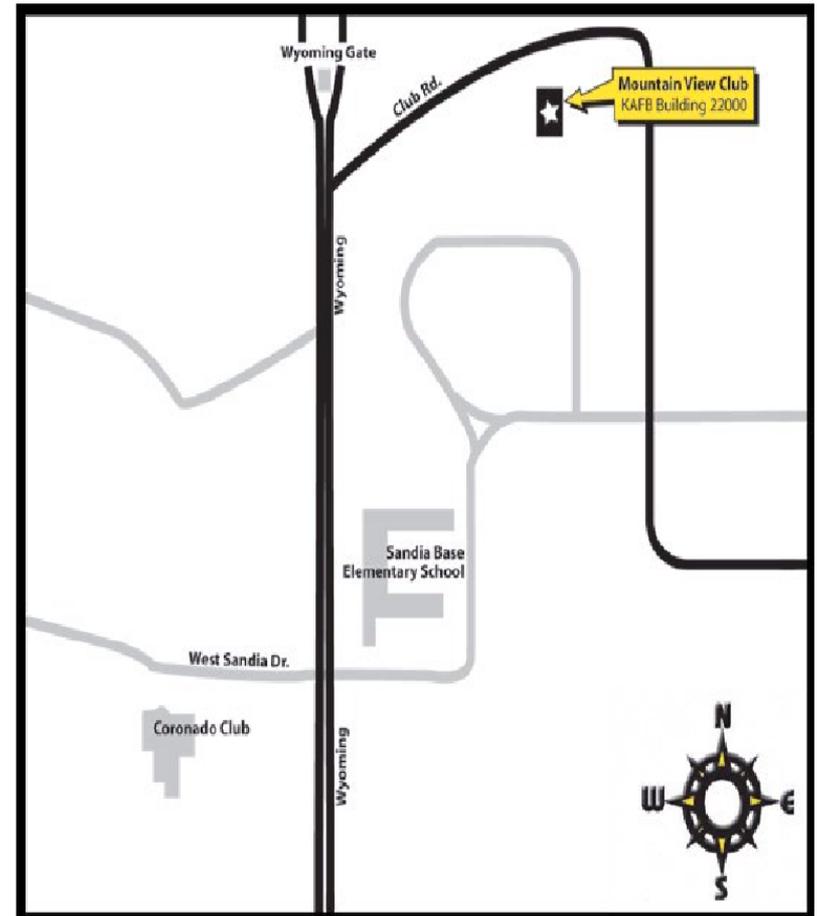
**Future Seminars:**

**January 20, 2009**

**April 14, 2009**

**July 14, 2009**

**October 13, 2009**



# Contractors Quarterly Safety Seminar Sign-In Sheet

PRINT CLEARLY

Company	Name	Position (Safety Officer, Foreman, etc.)	Office Phone	Cell Phone	Email Address
1. SDV CONST	Kirk McWethy	President	883-3176	850-2817	KirkESDVconstruction.com
2. SDV Construction	Paul Schreiber	Project manager	883-3176	903-0164	Paul@SDVConstruction.com
3. SDV Construction	JERRY MORGAN	OPS MANAGER	803-3176	903-0165	Jerry@SDVConstruction.com
4. S/V Construction	JAMES VIGG	SAFETY MANAGER	351-8000	941-3565	james@safety-solutions.com
5. Comark	ROSA JULIA	Safety Mgr		944-1642	Olalibizzeval@yahoo.com
6. JB HENDERSON	JOHN J ORTEGA	SAFETY REP	924-0168	975-2329	jortega@jbhenderson.com
7. Summit	Clayton Thomas	Superintendent	804-654		clayton@summitconst.com
8. DEL RIO ENT	MICHAEL CONNOR	FOREMAN	341-9055	235-0956	
9. ENTERPRISE ELECTRIC	ANTHONY GUTIERREZ	PRESIDENT	275-9369	319-3202	agutierrez@entel.com.com
10. " "	ANTONIO GONZALES	SAFETY	"	319-4411	
11. SDV CONSTRUCTION	MARVIN DUNCAN	PROJ. ENG	883-3176	963-0814	marvin@sdvconstruction.com
12. DEL RIO ENT, INC.	KEVIN GARCIA	PRESIDENT	341-9055	250-2900	KGARCIA@DRBE-NA.COM
13. BRYCON	Vic Olesen	Sfty MGR	250-1764	892-9165	VOlesen@brycon.com
14. 4827	DAVID HERMAN	Inspector	844-4905	2643908	DMH@MAJAXIA.com
15. Southwest Hazard Control	Lois Olague	Superintendent	298-6930	228-0622	lolague@swhaz.com
16. Rupert Plumbing & HTG	Gene Martinez	GENERAL FOREMAN	247-8138	321-0692	N/A
17. RUPERT P&H	MIKE WILCOX	FOREMAN	247-8138		
18. Rupert P&H	Justin Turcano	Apprentice	247-8138		
19. Business Environments	Mike Daniel	ISO	888-4400	401-0444	meloni@businessenv.
20. Apple One SNL	Rick Johnston	Inspection	844-1909	264-2949	rmjohnst@sandia.gov
21. Brandon NL SNL	Karen Prinke	PM	284-9717		koprink@sandia.gov
22. SNL	Rick DeLaRosa	Project tech	884-3700	239-6591	rdelara@sandia.gov
23. Apple One SNL	Joseph James Gouch	Inspect	250-0493		
24. Apple One SNL	Carlos Giron	Inspect	236-8917	824-3332	CGiron@sandia.gov
25. Brycon Corporation	Gary Benavidez	Project Engineer		450-1274	gbenavidez@brycon.com
	WES MOZLEY	MTS	844-6288	280-1404	wrmozley@sandia.gov

# Contractors Quarterly Safety Seminar Sign-In Sheet

PRINT CLEARLY

	Company	Name	Position (Safety Officer, Foreman, etc.)	Office Phone	Cell Phone	Email Address
1.	ALPHA Construction	John Martinez	Safety officer	610-4163	263-8877	
2.	<del>Alpha Construction</del> FESI	Tom Garcia	Foreman	319-6763	275-9369	tgarcia@entelcomm.com
3.	Del Rio Ewt FwC	Emilio Lopez	Foreman	341-9055	239-7116	
4.	ECI	BILL BURRESS	Foreman	268-9920	489-7714	BBURRESS, ECI @ comcast.net
5.	SSA SNL	Nam Maxwell	IH	284-9788		nmwvel@sandia.gov
6.	SSA SNL	Brian DYE	IH	844-5779		bldye@sandia.gov
7.	ECI	Anthony Salcido	Foreman	268-9920	907-0951	asalcido.eci@comcast.net
8.	Del Rio	Bob Pacheco	Safety	896-8080	850-5305	bob@bandagroupintl.com
9.	ISS	Madeline Russi	Safety	2471475	69101071	Madeline.Russi@construction.com
10.	TEF	Emily Miller	Safety FSO	2932343	0690438	TEFconstem@aol.com
11.	US ELECT COMP.	LARRY ECKHART	PM	260-1000	331-8337	larry.e@uselectricalcorp.com
12.	SNL - SSA	Randy Fellhelter	Safety	844 6395		Rfellh@Sandia.gov
13.	Summit Const. Inc	David Chavez	Super.		2809880	
14.	SUMMIT CONST.	Tony Thomas		842-8113		SUMMIT@SUMMIT-CONST.COM
15.	SNL	Linda Sells	Admin			
16.	Rupert Plumbing	Chris A. Aurster	SO	247-8138-12	321-0497	chris@rupertph.com
17.	Summit Const.	Tito Vigil	Super.	842-8113	489-6992	tito.v@summitconst.com
18.	sandiastaffingAlliance for SNL	Carol Bicher	PM	2841748		cbicher@sandia.gov
19.	SNL	Patsy Rowland	PL	8445315		pkrowla@sandia.gov
20.	SNL	William Teray	PL	845-0633		wteray@sandia.gov
21.	SNL	Greg Kinsch	ESH	845-8497		gckinsch@sandia.gov
22.						
23.						
24.						
25.						

# Contractors Quarterly Safety Seminar Sign-In Sheet

**PRINT CLEARLY**

Company	Name	Position (Safety Officer, Foreman, etc.)	Office Phone	Cell Phone	Email Address
1. DOE SSO	Wayne Walker	FR	845-4240	—	wwalker@doeal.gov
2. RMCI	Michael Loiselle	Proj Mngvr	505 345 0008	917-6919	MLoiselle@rmcinc.com
3. BENDRSON	DAVE BEUZELKOM	PROJ MGR	924-0167	975-3882	dbeuzekom@bendrson.com
4. EESI	Joey Souls	PM	275-936919	804-3842	JSOULS@EETELCOMM.COM
5. ECI	Scott Gifford	PM/safety	268-9920	489-7710	sgifford.eci@rcwcast.net
6. Cross Connection	Phillip Ramirez	PM/Safety	314-4834	507-2345	
7. Woodward Metal Co	Michelle Rivera	(President)	237-1122	385-6740	woodwardmetal@msn.com
8. Rupert Plumbing & Heating	Chel P. Martin	Welder	247-8138	328-5640	
9. Summit Construction IN	JAMES NORTH	COMPLIANCE ADMIN	842-8113	264-9923	James@SummitConst.com
10. Del Rio Enterprises	Jim Morrow	PM	341-9055	228-7074	jmorrow@delrio-nm.com
11. Summit Const.	Richard Passwater	Super	842 8113	228-3689	richard@summitconst.com
12. Rupert Plumbing & Heating	Richard Rupert	Owner	247-8138	328-1720	richard@RupertPH
13. Rupert P & H	DANE SEXTON	SP			
14. RUPERT PH	RAY WOLF	GF	247-8138	315-4278	
15. BTD ELECTRIC	ANDY LOPEZ	FM	299-4464	991-6614	randyL@btd-electric.com
16. BTD Electric	Roberto Garcia	App. wrenan			
17. DOE SSO	Jim Todd				
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