FY08 3rd Quarter Construction Contractor Safety Seminar

Mountain View Club, 2:00 – 4:00 PM

April 8, 2008 Meeting Minutes

Speakers: Introduction, Agenda & Preliminary Lessons Learned: Greg Kirsch, ES&H Program Manager for FMOC, Dept. 4827, Office Phone: 845-9497, e-mail: gckirsc@sandia.gov

Lessons Learned - Near Miss of Subcontract Personnel Exposure to Organic Solvents during Painting Operations in Building 984: Contractor's Perspective

Lessons Learned - Crossed Neutral in Flexible Cord Connector results in Electrical Shock in Bldg. 808: Contractor's Perspective

Lessons Learned - Asbestos Abatement Worker Receives Electrical Shock while Installing Plastic Sheeting in Bldg. 807: Greg Kirsch

01065 CSSP Review Checklist Changes: Pamela Sayers, Construction Safety, Dept. 4122, Office Phone: 284-4606, pager: 530-7126, e-mail: psayers@sandia.gov

Safety Observations Summary and Injuries: Greg Kirsch

Addressing Industrial Hygiene Prior to Work Operations: Diane Morrell, Industrial Hygiene, Dept 4127, Office Phone: 284-9289, e-mail: dmorrel@sandia.gov

OSHA Requirements for LOTO Locks and Tags: Greg Kirsch

BBS Trends & Analysis (Jan – Feb 08): William Tierney, BBS Steering Committee, Office Phone: 845-0633, Pager: 530-1343, e-mail: wjtiern@sandia.gov

Construction Lessons Learned:

- 823 Pipe event: Greg Kirsch
- New York City Tower Crane Accident: Greg Kirsch

Manzano Electrical Upgrades: William Tierney

Safety Stars: William Tierney

Summary

There were 59 attendees and 22 companies represented. The sign-in sheets are included at the end of the PowerPoint presentation for more detailed information.

Greg Kirsch – Introduction

Greg welcomed everyone to the Quarterly Construction Safety Seminar.

Lessons Learned Contractor Perspective

There were three construction occurrences and zero recordable injuries in the 2nd Quarter of FY08. Greg Kirsch presented each event and the respective contractors gave their perspective and lessons learned. See the Power Point slides for detailed information.

- Near Miss of Subcontract Personnel Exposure to Organic Solvents during Painting Operations in Building 984
- Crossed Neutral in Flexible Cord Connector results in Electrical Shock in Bldg. 808

- Asbestos Abatement Worker Receives Electrical Shock while Installing Plastic Sheeting in Bldg. 807

Pamela Sayers - 01065 CSSP Review Checklist Changes

Pamela presented a summary of what has changed in the 01065 Spec and what the revised CCSP Review Checklist looks like.

Greg Kirsch – Safety Observations Summary and Injury Data

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

Diane Morrell – Addressing Industrial Hygiene Prior to Work Operations

Diane presented a summary of the implementation of the Industrial Hygiene Library process for construction projects.

Greg Kirsch – OSHA Requirements for LOTO Locks and Tags

Greg presented a summary of requirements for properly removing Locks and Tags for a LOTO operation.

OSHA requires that all LOTO locks and tags be removed following the completion of the work activity requiring LOTO to be performed. This is from an assessment that Sandia Site Office (SSO) did in November of 2007 were he found a two of LOTO devices that were left on by a contractor even though the work was completed.

William Tierney – BBS October – January – February 2008 Data Review

William presented the BBS Data summary for January – February 2008. There were a total of 460 observations during this period.

Greg Kirsch – Construction Lessons Learned

Greg presented lessons learned for the following two events. See the presentation for details.

- Building 823 mishandling of Pipe
- New York City Tower Crane Accident

William Tierney – Manzano Electrical Upgrades

William presented a summary of the first of a kind task involving ascending up the side of Manzano Mountain with a bull dozer pulling a piece of equipment, pulling cable and putting a cable raceway into an air shaft. All previous work had been done by helicopter.

Closing

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

Please mark your calendars and plan to attend the next Quarterly Safety Seminars in 2008:

Location: **Mountain View Club**
Time: **2:00 – 4:00 PM**
Date: **July 8, 2008**
October 21, 2008

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

April 8, 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.

Sandia National Laboratories

Agenda

2:00 PM Introduction

2:05 PM Lessons Learned - Near Miss of Subcontract Personnel Exposure to Organic Solvents during Painting Operations in Building 984: Contractor's Perspective

2:10 PM Lessons Learned - Crossed Neutral in Flexible Cord Connector results in Electrical Shock in Bldg. 808: Contractor's Perspective

2:20 PM Lessons Learned - Asbestos Abatement Worker Receives Electrical Shock while Installing Plastic Sheeting in Bldg. 807: Greg Kirsch

2:30 PM 01065 CSSP Review Checklist Changes: Pamela Sayers

2:40 PM Safety Observations Summary and Injuries: Greg Kirsch

2:50 PM 10 Minute Break

3:00 PM Addressing Industrial Hygiene Prior to Work Operations: Diane Morrell

3:10 PM OSHA Requirements for LOTO Locks and Tags: Greg Kirsch

3:20 PM BBS Trends & Analysis (Jan - Feb): William Tierney

3:30 PM Construction Lessons Learned:
- 823 Pipe Falling: Greg Kirsch
- New York City Tower Crane Accident: Greg Kirsch

3:45 PM Manzano Electrical Upgrades: William Tierney

3:50 PM Safety Stars: William Tierney

3:55 PM Closing: Greg Kirsch

Ladies and gentlemen, turn your attention to the center ring to see a pair of squeegee-brandishing, ledge-walking, window-cleaning clowns.

The Worst of Both Worlds

Lessons Learned

Renovation of Building 984: Partial evacuation of building 983 due to solvent vapors

Contractor Perspective

SNL Event Description

- On January 21, 2008, at approximately 9:30 am, a subcontractor began prepping the floor of Building 984 for a new painting application. The contractor mopped isopropyl alcohol (IPA) to clean the floor of the north high bay area, approximately 1235 square feet. The workers used 1 gallon of IPA.

- Between approximately 11:00am and 12:00pm, the painting workers mixed small batches of a two-part epoxy paste material and applied the material to seal cracks in the floor.

SNL Event Description

- At 12:00pm personnel in the adjacent Building 983 noticed the odor and called the Industrial Hygienist (IH) supporting Building 983 operations for support. The Industrial Hygiene responded to the call and found no activities in the building that would have created the odor.

- At 12:00 pm after sealing the cracks, the painters mixed the two-part epoxy sealer (4 gallons) with a half gallon of thinner outside the building and then moved the sealer inside to set.

SNL Event Description

- At 12:45pm the IH was informed by the Prime Contractor's Site Supervisor that a subcontractor was performing a flooring application in Building 984. The Site Supervisor and IH went to Building 984 and met with the Prime Contractor's General Foreman. The Prime Contractor suspended the work activity until further investigation could be performed.

SNL Event Description

- It was identified that IPA vapors had migrated into a trench connecting building 984 to building 983 which resulted in the odors identified by occupants in building 983. The painters had applied one quart of the sealer containing the thinner for 20 minutes, sealing 200 square feet of the floor. The workers wore half-face respirators with an organic cartridge while cleaning the floor, sealing the cracks, mixing the two-part epoxy sealer and the thinner, and applying the sealer to 200 square feet of floor surface.

SNL Event Description

- Further investigation identified that the thinner which had been added to the epoxy contained toluene (21%), butanol (19%), and methyl ethyl ketone (60%). The epoxy components contained additional organic solvents including xylene and ethylbenzyne.
- At approximately 3:00pm the SNL Building 983 IH monitored the area with a Photoionization (PID) monitor, which displayed 25ppm for total volatile organic compounds (VOC).

Contractor Lessons Learned

- Pre-task plans for this project are completed on a daily basis. However, the vapors from these activities entered building 983 via the utility trench which connects the two buildings. This hazard was missed and not identified from the initial hazard assessment on the pre-task for the day's activities.
- The trench has metal covers but these covers should have been covered and sealed prior to starting the floor activities.
- The subcontractor started applying the epoxy sealant and covered approx. 10'X20' area before being stopped as a partial evacuation of building 983 was underway due to concerns of unknown vapors.

Contractor Lessons Learned

- The problem was a lack of control over our subcontractor and not developing a detailed work plan that addressed the chemical hazards.
- We were not aware of the alcohol which was used to clean the floor or the thinner used in the sealant by the sub as they were not submitted for approval by IH.
- Look for locations that allow the migration of vapors to separate buildings and locations. Take measures to mitigate the hazards.
- Sandia is also addressing the Industrial Hygiene hazards with the Project Managers earlier in the process.

SNL Analysis

- The pre-task plan worksheet for the day of the incident, January 17th, identified that prep and epoxy floor activities would be performed. It identified that there was communication with the sub that included discussion of hazards, use of PPE, requirements to check equipment and use of dust mask and/or respirators. The pre-task worksheet does not communicate which task would require respirators and does not include any additional controls, such as the building exhaust.

SNL Analysis

- If the floor coating application hazards and controls had been submitted in the CSSP or addendum documentation the controls would have been reviewed by the SNL IH supporting FMOC construction activities and alternative controls may have been requested/identified.

SNL Analysis

- The FMOC Project Manager did not include the SNL IH supporting FMOC construction operations in the invitation to the Pre-Construction meeting. The existing FMOC Pre-Construction Checklist does include the IH on the distribution list but this name was not filled in by the Project Manager. Epoxy floor coatings are a standard construction application and the Project Manager did not identify it as a "special" activity that would require direct involvement by IH support personnel.
- If the SNL IH supporting FMOC construction operations had attended the pre-construction meeting the existing controls may have been discussed and the IH may have identified that additional controls or review was necessary prior to the work activity being performed.

SNL Analysis

- Although the Painting Subcontractor did ensure that the workers were provided with 1/2 face respirators w/organic cartridges, were trained, fit tested, and had medical evaluation prior to use, the migration of vapors and odors through the existing trench to the adjacent building was not identified.
- If the SNL IH supporting FMOC construction activities had been contacted to evaluate hazards and controls associated with the epoxy floor application the need to control migration of vapors and odors into Building 983 may have been identified and construction operations would not have impacted the building occupants.

SNL Recommended Actions

- Ensure work activities that could result in overexposure to chemicals have been appropriately evaluated by IH support to assure that controls are appropriate to protect workers performing the task and personnel in the surrounding areas.

Lessons Learned

Crossed Neutral in Flexible Cord Connector results in Electrical Shock in Bldg. 808

Contractor's Perspective

SNL Description of Event

- On February 1, 2007, at approximately 1:30pm in Building 808, a line employee received a 120volt shock while holding a standard 120volt, 20-amp plug. The plug feeds a portable clean room. The portable clean room has three separate 120volt standard electrical plugs that feed its internal circuitry. Two circuits feed two fans and one circuit feeds the lights. An Electrical Construction Subcontractor pre-wired the apparatus in December for the building occupants.

SNL Description of Event

- The impacted line employee plugged one cord into a wall receptacle and the employee heard "fan circuit 1" turn on. The worker then plugged in a second cord feeding "fan circuit 2" and did not hear any additional fans turning on. While walking the third cord to a third wall receptacle, the worker's finger simultaneously made contact with the neutral and ground pins of the cord end and received a shock. Investigation identified that during the cord installation activity, the Electrical Construction Contract electrician crossed neutrals of the cords to fan 2 and the lights.

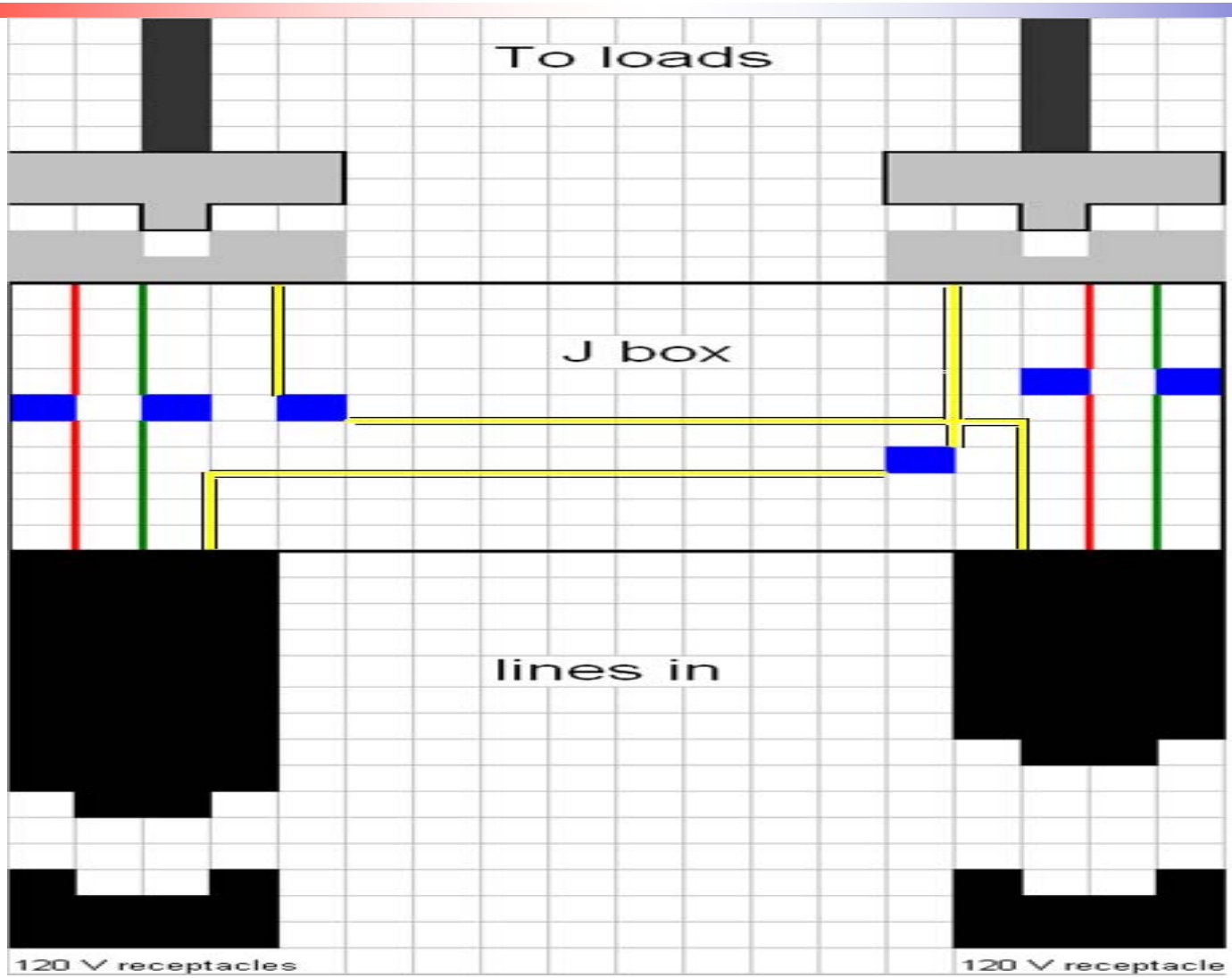
SNL Description of Event

- Because of the crossed neutrals, the neutral connected to "fan circuit 2" was wired to the plug (lighting) the employee was holding. When the employee's finger touched the neutral and ground terminals on the plug, the circuit to "fan circuit 2" was completed, and the employee was shocked.
- A Facilities Management and Operations Center (FMOC) electrician was contacted for diagnostics and testing. The electrician corrected the problem and verified that all circuits are now in a safe configuration.
- The line employee was taken to medical for evaluation and released with no restrictions.

Contractor Perspective

- What The Work Entailed?: The worker was sent to install three new 3-wire cords to power up existing wiring on a portable clean room at building 808.
  Note: *The loads being fed from new circuits were not in place at the time of the installation and were not due in for a couple of weeks after the installation was completed.*
- What Caused The Problem?: The worker installed the cords and the neutral connections on two of the three circuits were inadvertently swapped.

Electrical Cord Wiring



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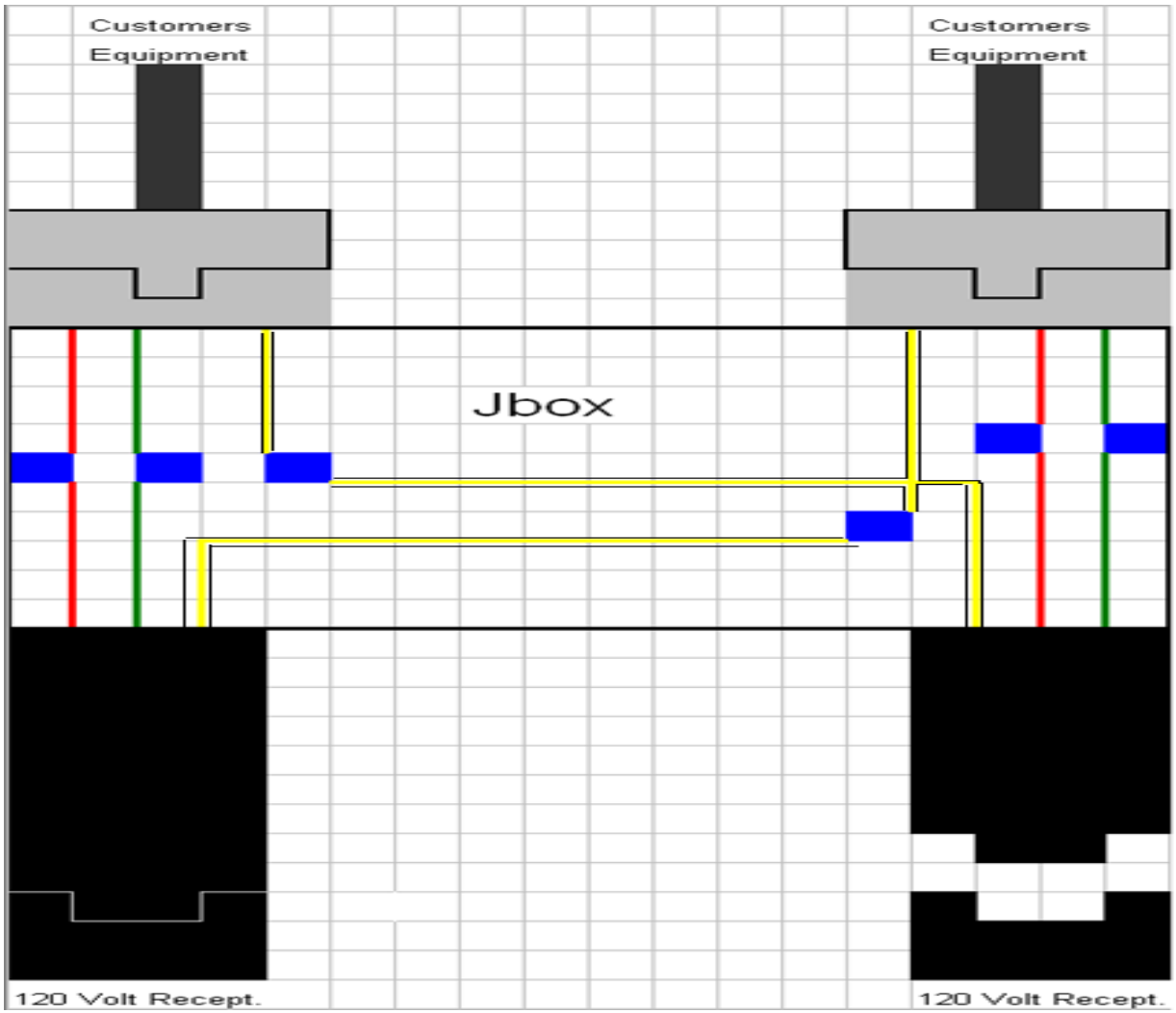
Electrical Cord Wiring



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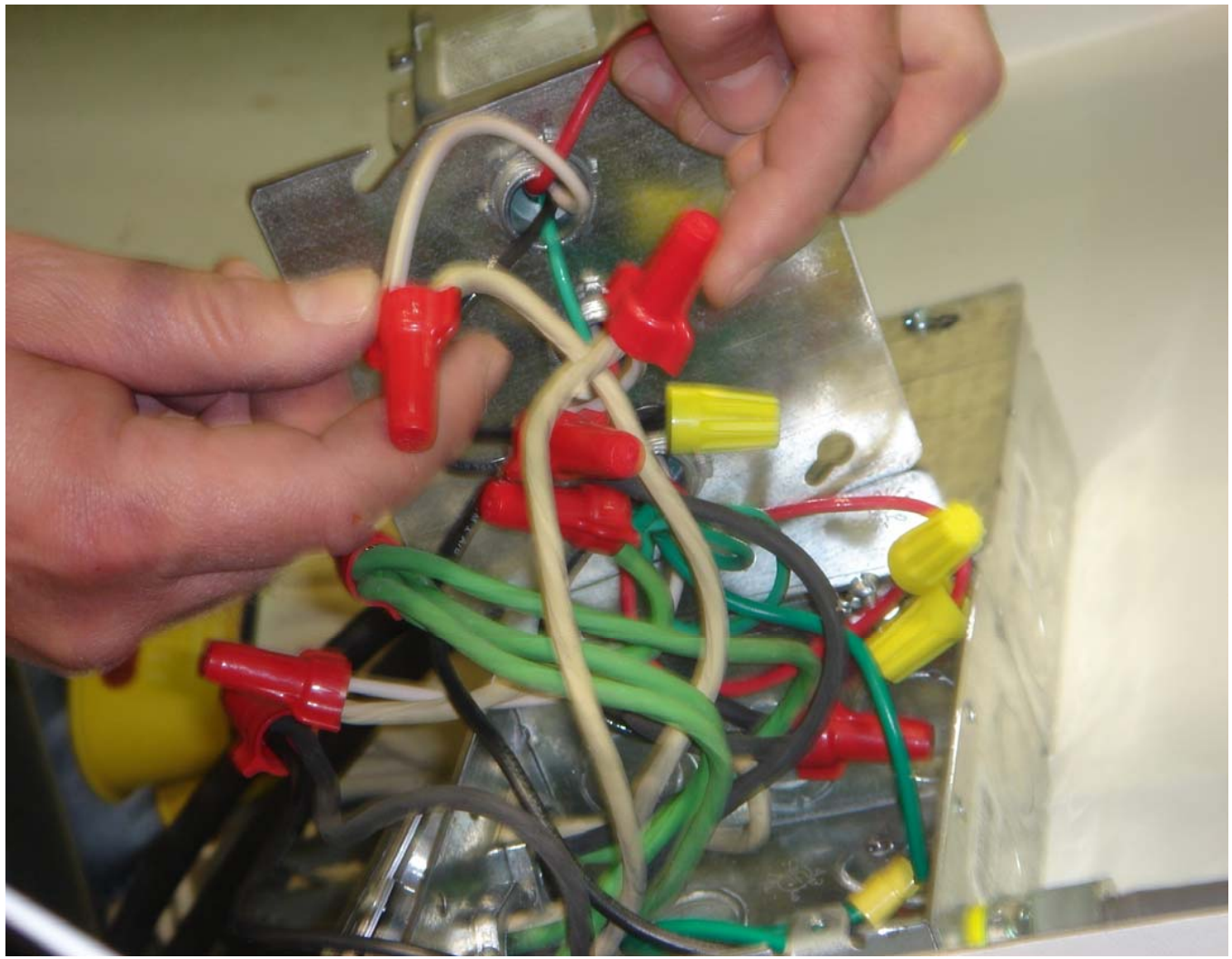
Electrical Cord Wiring



Contractor Perspective

- Corrective Actions: Employees were notified of the event in the weekly safety meetings and were advised as to what testing procedures should be followed after installations are complete in regard to testing and confirming their work as per SNL16001/ 3.14 in a company memorandum which was documented and put in each of their personnel files. (see next slide)

Contractor Perspective

- Tests/Inspections - After the system installation is complete, and at such time as directed by the SCO, Contractor shall conduct an operating test for demonstration of completion of the work. This test may be in addition to and part of a formal system commissioning procedure, but shall not replace such commissioning event.
- Electrical equipment shall not be energized prior to inspection by the SCO.
- Ceiling tiles shall not be installed prior to inspection by the SCO of any above-ceiling installed electrical equipment.

Contractor Perspective

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- Electrical equipment shall not be energized prior to inspection by the SCO.
- Ceiling tiles shall not be installed prior to inspection by the SCO of any above-ceiling installed electrical equipment.

Contractor Perspective

- When requested, Contractor shall test any designated wire, cable devices, and equipment after their installation, to assure that all of the material continues to possess all the original characteristics, as required by all governing codes and standards listed in these specifications.
- At the time of the operational testing a complete set of as-built drawings shall be given to the SCO.

SNL Analysis

- SNL SMEs were not contacted to provide inspection and acceptance criteria/testing when the non-UL listed and labeled equipment was put into service.
- ES&H Manual guidance to SNL management and members of the workforce does not provide adequate guidance/expectations regarding the purchasing of non-UL listed and labeled large components (such as the clean room). Although the electrical equipment used to manufacture the clean room was UL-listed, the clean room assembly was not. Purchase of non-UL listed equipment is allowed but requires additional awareness on the part of the purchaser and users of the equipment to ensure safe operation.

SNL Recommended Actions

- Check to see if you have portable clean rooms with multiple 20 amp cord/plug connections that could have been miss-wired during installation activities creating the same electrical hazard for personnel plugging and unplugging the cords when moving the clean room.
- Share lessons learned from this incident with personnel that may be involved in connecting equipment with multiple 20 amp cord and plug configuration. It is important to share that a functional test of the system (plug in cords and see if electrical systems work properly) would probably not identify this electrical hazard.

Lessons Learned

Asbestos Abatement Worker Receives Electrical Shock while Installing Plastic Sheeting in Bldg. 807

Greg Kirsch

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Description of Event

- On February 8, 2008, at approximately 9:10am, a Facilities Management & Operations Center (FMOC) subcontract asbestos abatement worker installing plastic sheeting in preparation for asbestos abatement activities in Building 807 received an electrical shock.

Picture

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Description of Event

- While installing the plastic sheeting the worker pulled a conduit away from a small section of block wall to place the plastic material behind the conduit. The conduit pulled apart at a coupling and damaged the conductors resulting in a 120V shock to the worker.
- The worker was transported to SNL Medical by a co-worker for medical evaluation and was released that same day with no restrictions.

Investigation

- The conduit was traced by an FMOC electrical engineering representative, safety representative, and electrical subcontractor responding to the incident. The conduit contained two # 12 hot conductors and a neutral (conduit was acting as the ground path which was typical when this building was constructed) that originated in Panel EP1 located in the basement.

- The Asbestos Abatement subcontractor was utilizing a best practice that included fall protection while working on the ladder. This gave the shocked worker a secondary protection from a fall.

Lessons Learned

- Large older buildings are difficult to trace the entire electrical system. This conduit was in the concrete bond beam and fed from the basement.
- The third floor was communicated to be free of electrical power except for conduits that were marked in red paint and this was not fact.

Corrective Actions

- A project restart plan was developed that will include an updated utility plan for the project. The utility plan will include: drawings detailing temporary power for the building during decon and demolition operations.

- Abatement Contractor will update their CSSP to include a requirement for a walkdown with the PM and Utility Contractors (electrical and mechanical as appropriate) for abatement projects that require utilities in the abatement containment area to remain in service/energized.

Construction Contractor Safety Plan Review Checklist

Pamela Sayers

Checklist Changes

E.2 The superintendent or delegate shall perform frequent and regular inspections of the worksite to identify and correct instances of non-compliance with the CSSP. The CSSP identifies contractor's methods for documenting inspections. Documented inspections shall be maintained for the duration of the contract and available for review by PM or SDR.

H. The contractor shall perform one (1) written self assessment of one element of their safety program per quarter. Self assessments shall be made available for review by PM or SDR.

Checklist Changes

Attach this checklist to the Safety Program/Plan Review Form.

Contract Company:		Contract No:		Project #:	

SAFETY PLAN REVIEW CHECKLIST

Note: Each reviewer shall enter the applicable evaluation code and their initials for each section of this checklist. When review is complete, sign and date Safety Program/Plan Review Form and mark the appropriate recommendations.

Code Legend: + = Acceptable; – = Inadequate/Omitted; N/A = Not Applicable

Safety Engineering		Industrial Hygiene		Waste Environmental		Radiological		Standard Specification 01065 ES&H for Construction and Service Contracts Note: Use 29 CFR 1926 for construction, and 29 CRF 1910 for service.	
Code	Initial	Code	Initial	Code	Initial	Code	Initial		
1.05 Quality Assurance									
N/A	N/A			N/A	N/A	N/A	N/A	A	Comply with applicable environmental, safety and health laws, rules, and regulations of SNL, DOE, Federal, State, and local governments, including OSHA 29 CFR 1926 and 29 CFR 1910 for construction and service contracts, respectively.
		N/A	N/A	N/A	N/A	N/A	N/A	B	Does PM flow down requirements to subcontractors?
		N/A	N/A	N/A	N/A	N/A	N/A	C	Does the Contractor Safety Officer meet minimum requirements?
		N/A	N/A	N/A	N/A	N/A	N/A	D.1	Has a competent person been identified?
		N/A	N/A	N/A	N/A	N/A	N/A	D.2	Has the competent persons credentials that may include Professional Engineering license been submitted if needed?
		N/A	N/A	N/A	N/A	N/A	N/A	D.3	Is it stated that the Competent Person shall be on site at all times when a competent person is required if needed?
		N/A	N/A	N/A	N/A	N/A	N/A	E	Prime Superintendent or delegate shall be onsite during active construction times and communicating and documenting hazards and mitigations.
		N/A	N/A	N/A	N/A	N/A	N/A	E.2	Superintendent or delegate shall perform frequent and regular inspections of the worksite to identify and correct instances of non-compliance with the CSSP. CSSP identifies contractor's methods for performing and documenting inspections. Documented inspections shall be maintained for duration of contract and available for review by PM or SDR
		N/A	N/A	N/A	N/A	N/A	N/A	G	Are employees required to receive 10-hour OSHA, 01065, and on the CSSP?
		N/A	N/A	N/A	N/A	N/A	N/A	H	Contractor shall perform one (1) Written Self-Assessment of one element of their Safety Program per quarter. Self-Assessments shall be made available for review by PM or SDR.
1.06 Contract-Specific Safety Plan									
		N/A	N/A	N/A	N/A	N/A	N/A	A	Does Contract Specific Safety Plan (CSSP) state the nature of work?
				N/A	N/A	N/A	N/A	A	Does CSSP state potential hazards anticipated?
				N/A	N/A	N/A	N/A	A	Does CSSP state how hazards will be mitigated or how workers will be protected from hazards for each separately definable construction activity (e.g. excavation, foundations, structural steel, and roofing)?
				N/A	N/A	N/A	N/A	A	Has the CSSP been submitted in electronic format and separated into two sections? CSSP OSHA Requirements and SNL- specific requirements.

Checklist Changes

		N/A	N/A	N/A	N/A	N/A	N/A	A.3	Has CSSP incorporated sub-contractors safety plans?
		N/A	N/A	N/A	N/A	N/A	N/A	B.1	If Jobsite Hazard Evaluation (JSHE) has been completed, does this CSSP address restrictions or conditions specified for each identified pre-existing condition listed in JSHE?
N/A	N/A			N/A	N/A	N/A	N/A	B.2	Are carcinogens identified in the CSSP by list or MSDS?
1.06 Contract-Specific Safety Plan (Continued)									
		N/A	N/A	N/A	N/A	N/A	N/A	B.3	Task-specific hazard analysis shall be performed and documented for high hazard tasks, including but not limited to confined space, critical lifts, hot work, excavation, penetration, and energized work or tasks that require respiratory protection.
		N/A	N/A	N/A	N/A	N/A	N/A	C	Hazard Communication Methods are identified to inform employees of nature of work, potential hazards (safety meetings), mitigation, and protection prior to commencement of work. Document workers names, date, activities, hazards, and controls identified.
		N/A	N/A	N/A	N/A	N/A	N/A	D	Contractor is responsible for ensuring visitors comply with CSSP and PPE requirements.
		~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~D.1~~	~~Contractor is responsible for conducting and documenting daily workplace inspections to identify and correct hazardous conditions and noncompliance with CSSP~~
		N/A	N/A	N/A	N/A	N/A	N/A	D.3	CSSP shall include how the contractors and subcontractors disciplinary processes will apply to workers who fail to comply with the requirements of the CSSP
		N/A	N/A	N/A	N/A	N/A	N/A	E	Does the CSSP address emergency action?
		N/A	N/A	N/A	N/A	N/A	N/A	F	Is a Contractor Safety Officer identified in accordance with Quality Assurance requirements?
		N/A	N/A	N/A	N/A	N/A	N/A	G	Preserve accident scene until SNL Incident Commander, Safety Engineer, SCO or SDR arrives.
		N/A	N/A	N/A	N/A	N/A	N/A	H	Keep a copy of CSSP and documented training on site and available to subcontractors, construction observers, and SNL construction safety personnel.
		N/A	N/A	N/A	N/A	N/A	N/A	I	Hazards that were not identified in original CSSP shall be submitted in a CSSP addendum or in the form of a modification for acceptance.
1.07 Jobsite Hazard Evaluation									
		N/A	N/A	N/A	N/A	N/A	N/A	C	Provisions listed to contact SCO or SDR for specific requirements if an unidentified hazard is encountered.
1.08 Event Notification									
		N/A	N/A	N/A	N/A	N/A	N/A	A-D	Does the CSSP identify procedures for reporting events (exposure, emergency and non-emergency)?
1.09 Suspension of Work									
N/A	N/A			N/A	N/A	N/A	N/A	A-D	Suspension of Work: • Personnel that have the responsibility and authority may suspend activities/task they observe or in which they are a participant, if they

Checklist Changes Continued

D.1 Removed – Contractor is responsible for conducting and documenting daily workplace inspections to identify and correct hazardous conditions and non-compliance with CSSP

The greatest change in the 01065 Spec is the requirement to include OSHA requirements for the type(s) of construction work that your company is engaged in. See list below

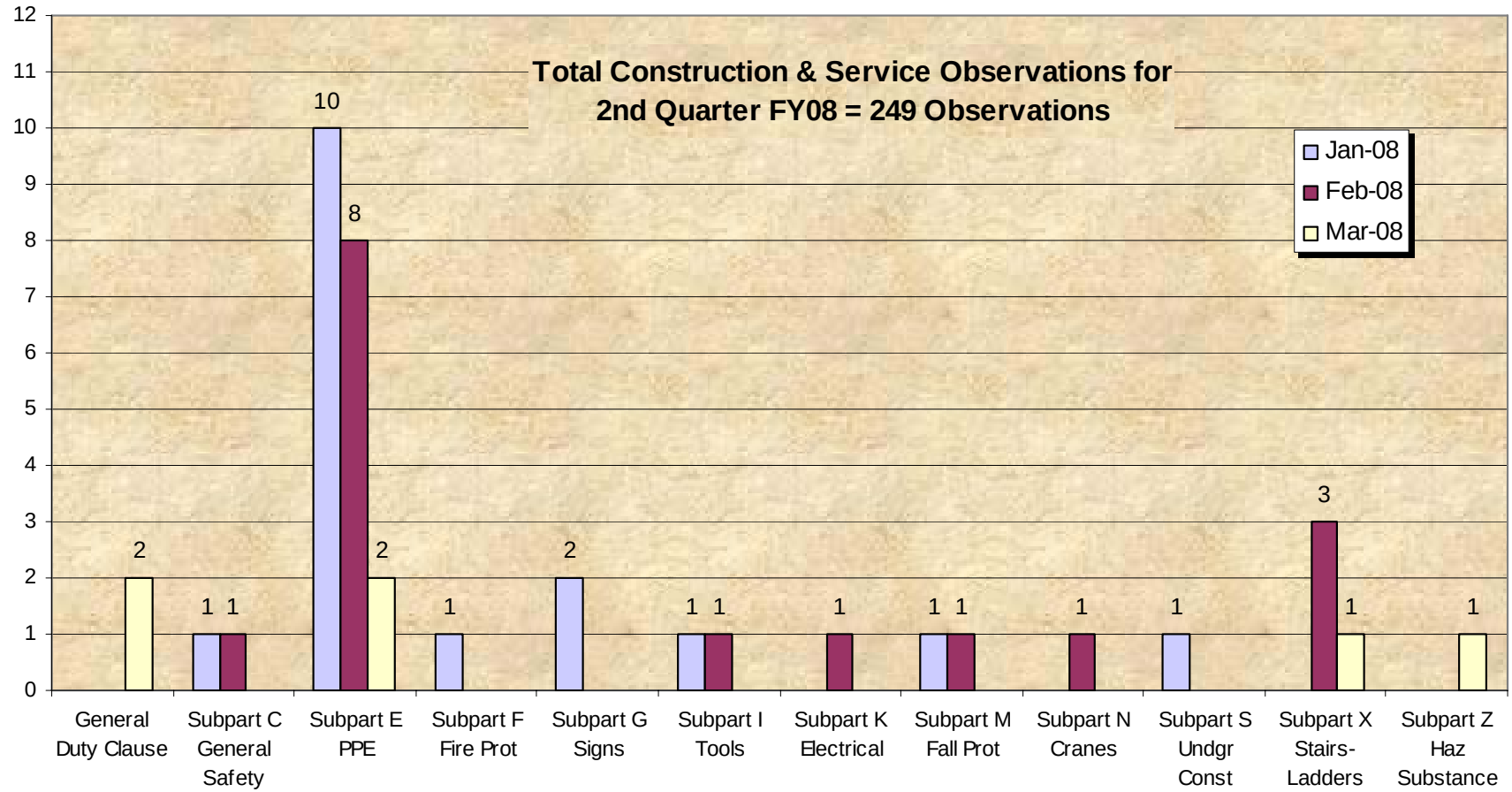
Checklist Changes

Applicable Construction Activity Hazards – By OSHA Subpart									
		N/A	N/A	N/A	N/A	N/A	N/A	1910	1910.147 Lock Out/ Tag Out
				N/A	N/A	N/A	N/A	1910	Subpart Q Welding Cutting Brazing
		N/A	N/A	N/A	N/A	N/A	N/A	1910	Subpart R: Electrical
				N/A	N/A	N/A	N/A	1926	Subpart C: General Safety and Health Provision
N/A	N/A			N/A	N/A	N/A	N/A	1926	Subpart D: Occupational Health and Environmental Controls
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart E: Personal Protective and Life Saving Equipment
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart F: Fire Protection and Prevention
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart G: Signs, Signals and Barricades
		N/A	N/A			N/A	N/A	1926	Subpart H: Materials handling, Storage, Use and Disposal
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart I: Tools – hand and Power
				N/A	N/A	N/A	N/A	1926	Subpart J: Welding and Cutting
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart K: Electrical
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart L: Scaffolds
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart M: Fall Protection
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart N: Cranes, Derricks, Hoists, Elevators and Conveyors
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart O: Motor Vehicles, Mechanized Equipment and Marine Operations
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart P: Excavations
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart Q: Concrete and Masonry Construction
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart R: Steel Erection
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart S: Underground Construction, Caissons and Cofferdams
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart T: Demolition
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart V: Power Transmission and Distribution
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart W: Rollover Protective Structures; Overheat Protection
		N/A	N/A	N/A	N/A	N/A	N/A	1926	Subpart X: Stairways and Ladders
N/A	N/A			N/A	N/A	N/A	N/A	1926	Subpart Z: Toxic and Hazardous Substances

Safety Observations Summary

Greg Kirsch
ES&H Program Manager

Non-compliant Observations
OSHA 1926 for Jan – Mar 2008



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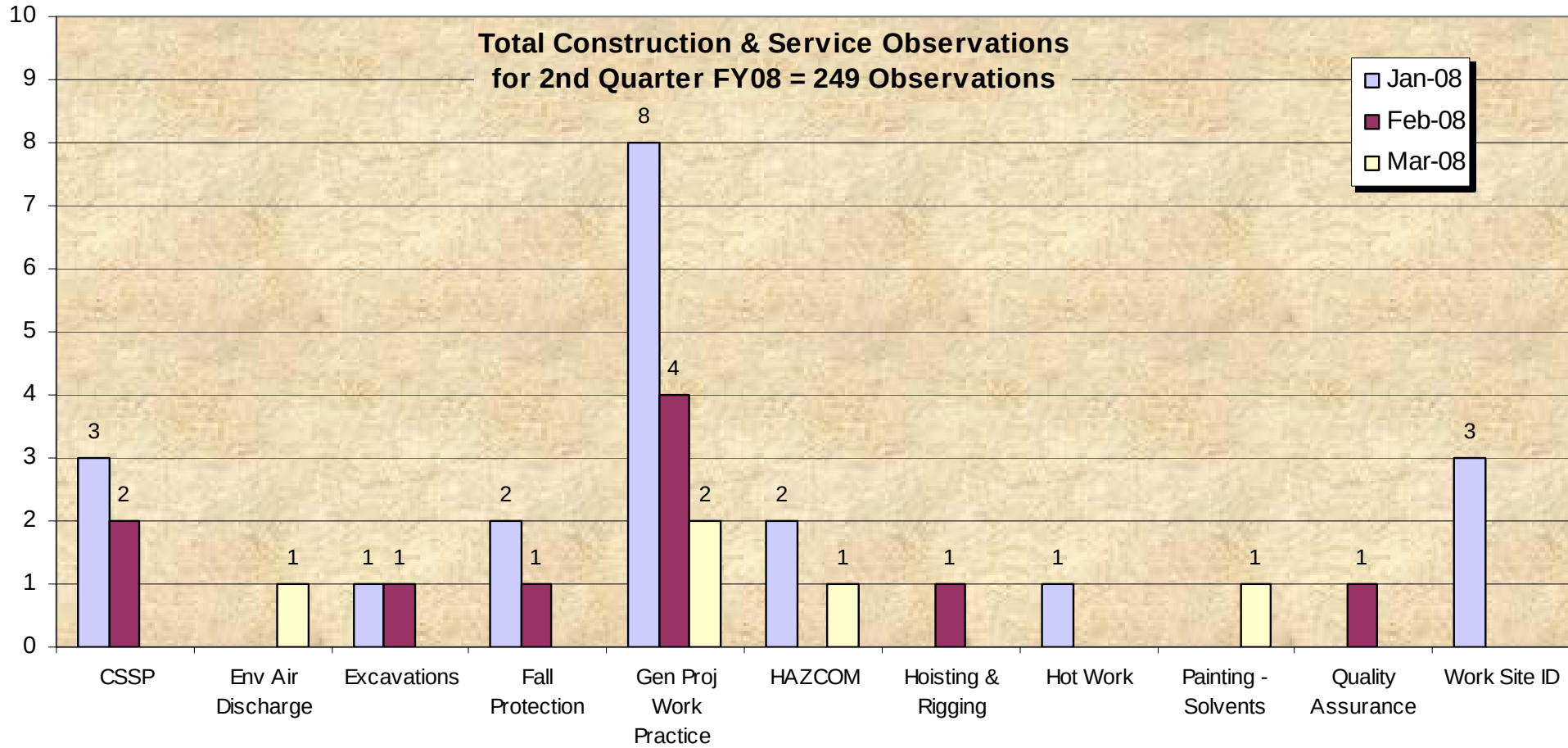
Non-compliant Observations
01065 Spec for Jan – Mar 2008



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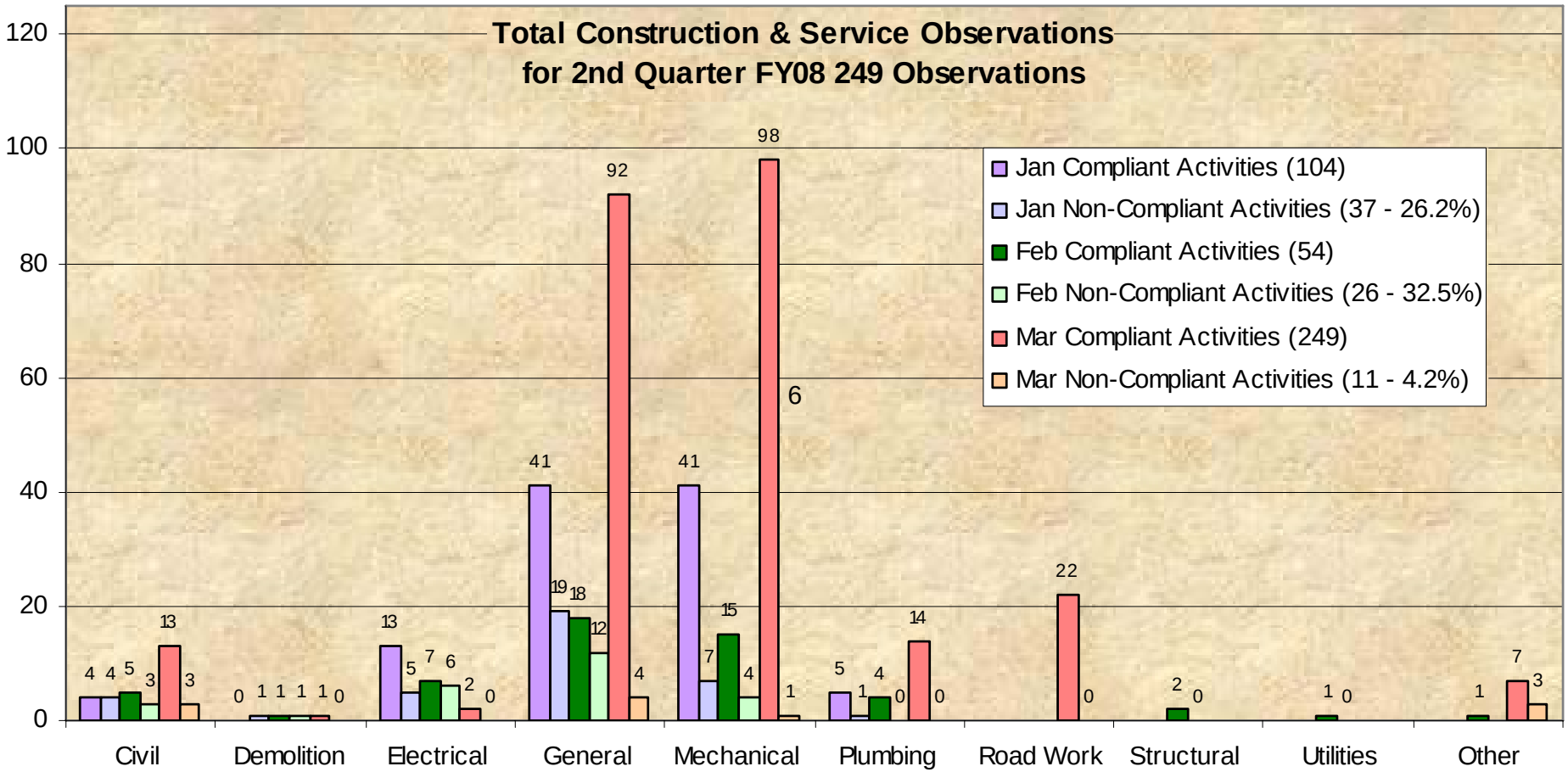
Compliant vs. Non-compliant Observations by Discipline Jan – Mar 2008



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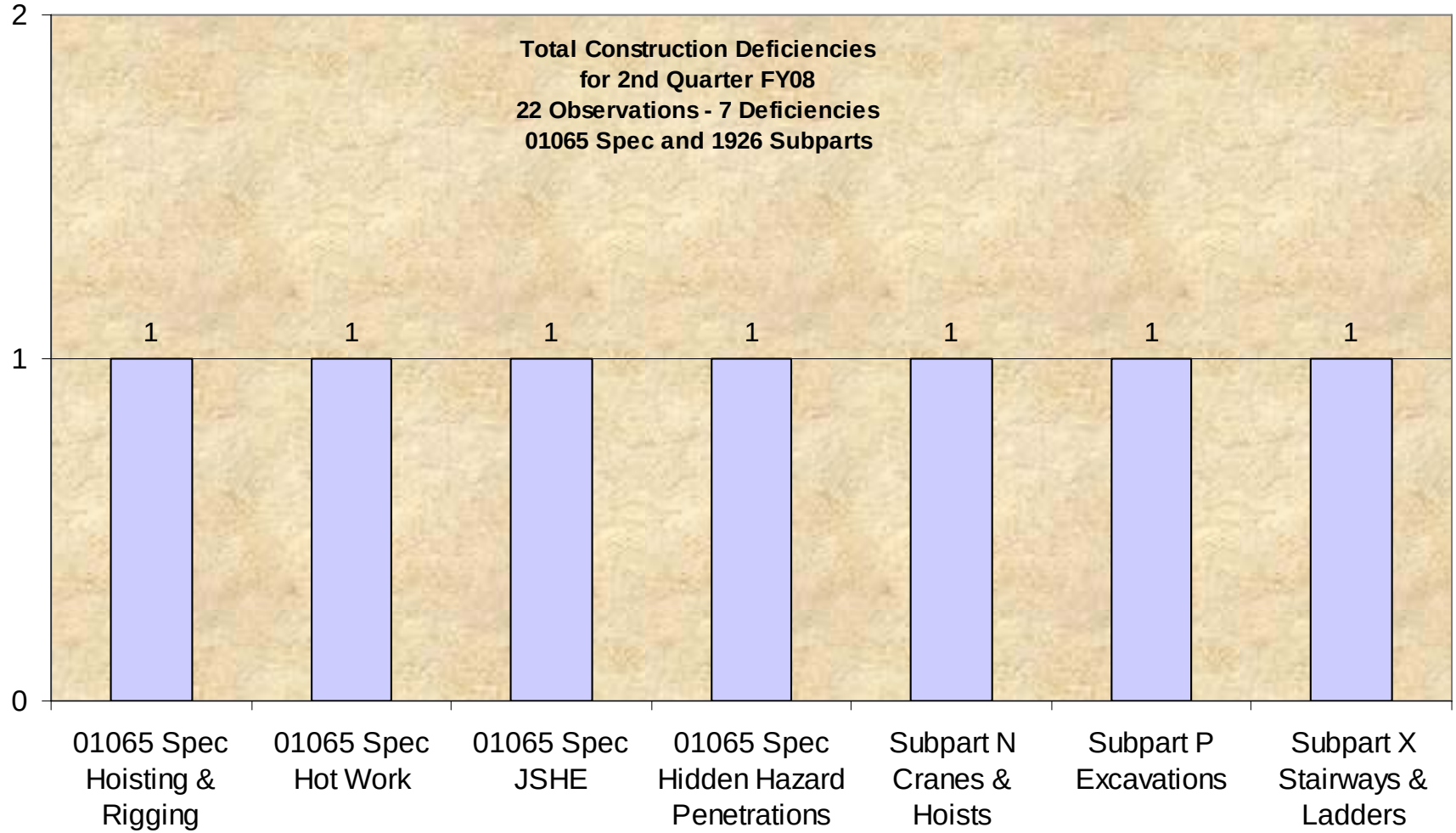
Construction Observations
Jan – Mar 2008



Sandia National Laboratories

10 Minute Break

All you have to do is wear those orange and yellow straps, and drag along your lanyard

Sandia National Laboratories

Now That's What I Call "Trusting

Addressing Industrial Hygiene Prior to Work Operations

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.

Sandia National Laboratories

Construction Activities Requiring Controls

- Instructions to the SNL Project Team – Shall review the Activities listed in the IH Activity/Task List for applicability to this scope of work. The FMOC Customer Support Team Industrial Hygienist (CST-IH) shall be contacted when specified under Controls or when the scope of work is not covered by an Activity or Task. IH shall provide an activity hazard analysis of anticipated IH related hazards and recommended controls. For activities represented in the IH Activity/Task List, cut and paste the activities/tasks and associated controls into the Table.

Construction Projects Overview

- When potential IH concerns have been identified, review the IH Activity/Task List for additional information on control requirements.
- Communicate the controls shown in the IH Activity/Task List when activities fall under the scope of an existing analysis.

Construction Projects Overview

- Contact IH when an existing analysis specifies IH involvement or an applicable activity hazard analysis does not exist or there are unanswered questions in the IH Activity/Task List.
- When IH related hazards have been identified, the PM shall include either an existing IH activity hazard analysis from the library (Step1 c) or a project specific activity hazard analysis performed by the SNL IH (Step 2) as a contract requirement in the project package.

Construction Projects Overview

- The contractor must either implement the control measures identified in the project package or must submit an acceptable alternative Task/Activity hazard analysis. A graded approach shall be used commensurate with the size, complexity, and risk level of the project.
- After an agreement has been reached on the Task/Activity Hazard Analysis, work may begin. In cases where an adequate Task Hazard Analysis is not possible at the time the CSSP is reviewed, a hold work order shall be issued using FMOC AP-214 that informs the contractor they are not authorized to proceed on the task pending resolution of the issues.

IH Activity/Task List

- A table of Activities, Tasks & Hazards and Controls that is used to communicate IH controls associated with selected construction activities help Project Managers understand the effects of IH requirements on the project they are working. The requirements in the list are important to selecting contractors with adequate capabilities and communicating SNL expectations in the contract documents.

IH Activity/Task List Example

Activity	Tasks & Hazards	Controls
Cutting or Jackhammering Asphalt	All work requiring cutting or jackhammering asphalt •Excessive noise. •Flying particles. •Exposure to re-occurring vibration. •Inhalation of dust from underlying soils	**Engineering Controls:** •Use wet methods to control dust levels created from disturbing underlying soil. •Use anti-vibration gloves or anti-vibration materials on equipment/tool handles to reduce vibration. •Use anti-vibration tools when available. **Administrative Controls:** •Increase frequency of breaks, as appropriate, to avoid vibration fatigue. •Use proper work practices that keep the worker's hands and remaining body warm and also minimize the vibration coupling between the worker and the vibration tool as necessary to minimize vibration exposure. **Personal Protective Equipment (PPE)** •Wear earplugs with earmuffs (NRR of 32).† •A face shield over safety glasses with side shields shall be worn. •Anti-vibration work gloves to absorb vibration.

Lockout/Tagout Removal

Greg Kirsch

Lessons Learned Event

- Sandia Site Office (SSO) witnessed that LOTO devices for a steam line were left on by a contractor after work was complete.

Training and Communication

- 1910.147(c)(7)(i) The employer shall provide training to ensure that the purpose and function of the energy control program is understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:

- 1910.147(c)(9) Notification of employees. Affected employees shall be notified by the employer or authorized employee of the application and removal of lockout devices or tagout devices. Notification shall be given before the controls are applied, and after they are removed from the machine or equipment.

Standard

- 1910.147(e) Release from lockout or tagout. Before lockout or tagout devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions taken by the authorized employee(s) to ensure the following:

- 1910.147(e)(3) Lockout or tagout devices removal. Each lockout or tagout device shall be removed from each energy isolating device by the employee who applied the device.

Exception to Paragraph (e)(3):

- When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the employer, provided that specific procedures and training for such removal have been developed, documented and incorporated into the employer's energy control program. The employer shall demonstrate that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it.

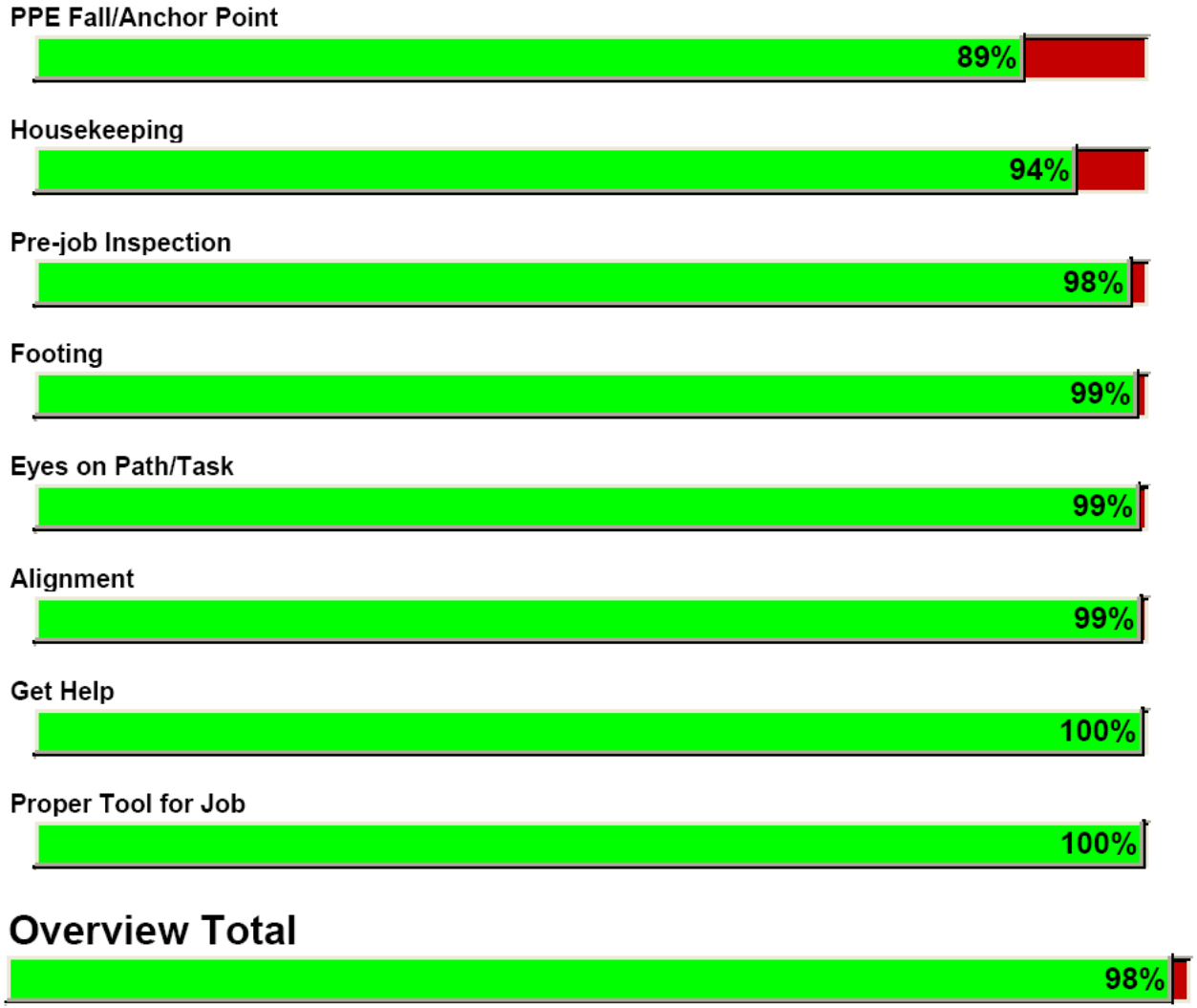
BBS Behavior-
2nd Qtr FY 2008 Data Review

Sandia National Laboratories

William Tierney

Sandia National Laboratories

2nd Qtr Data Summary



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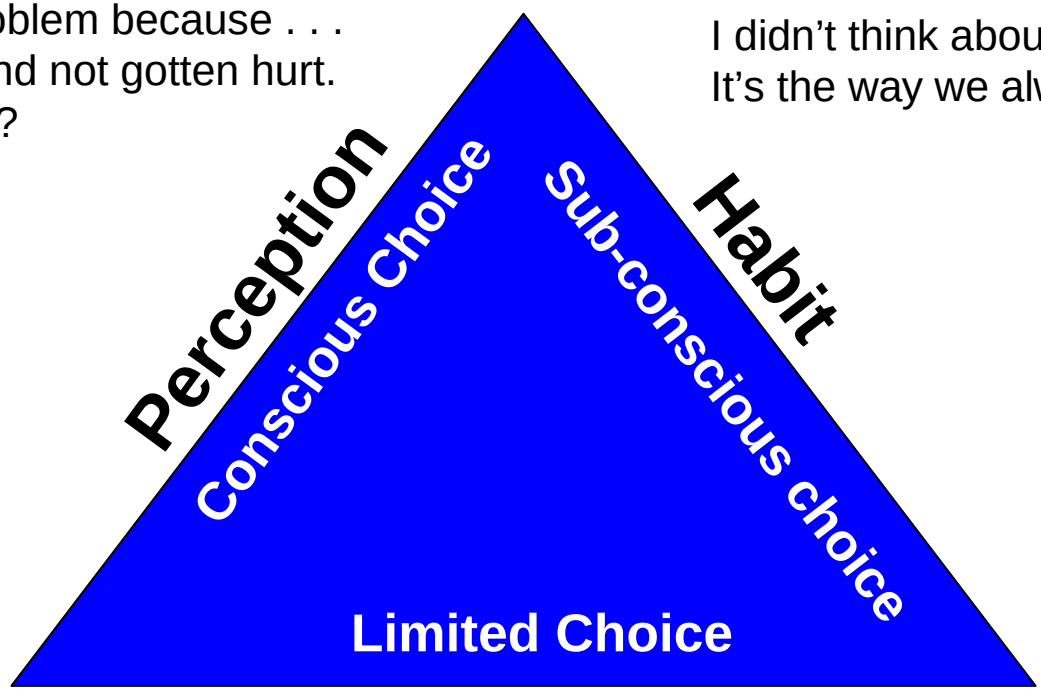
2nd Qtr Data Summary

- January-February
  - March not processed
- Total of 460 Observations
- Overall % Safe= 98% (99% last qtr)
- Lowest % Safe
  - PPE Fall/Anchor Point-89% (97% last qtr)
  - Housekeeping-94% (95% last qtr)
  - Pre- Job Inspection-98% (99% last qtr)

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?

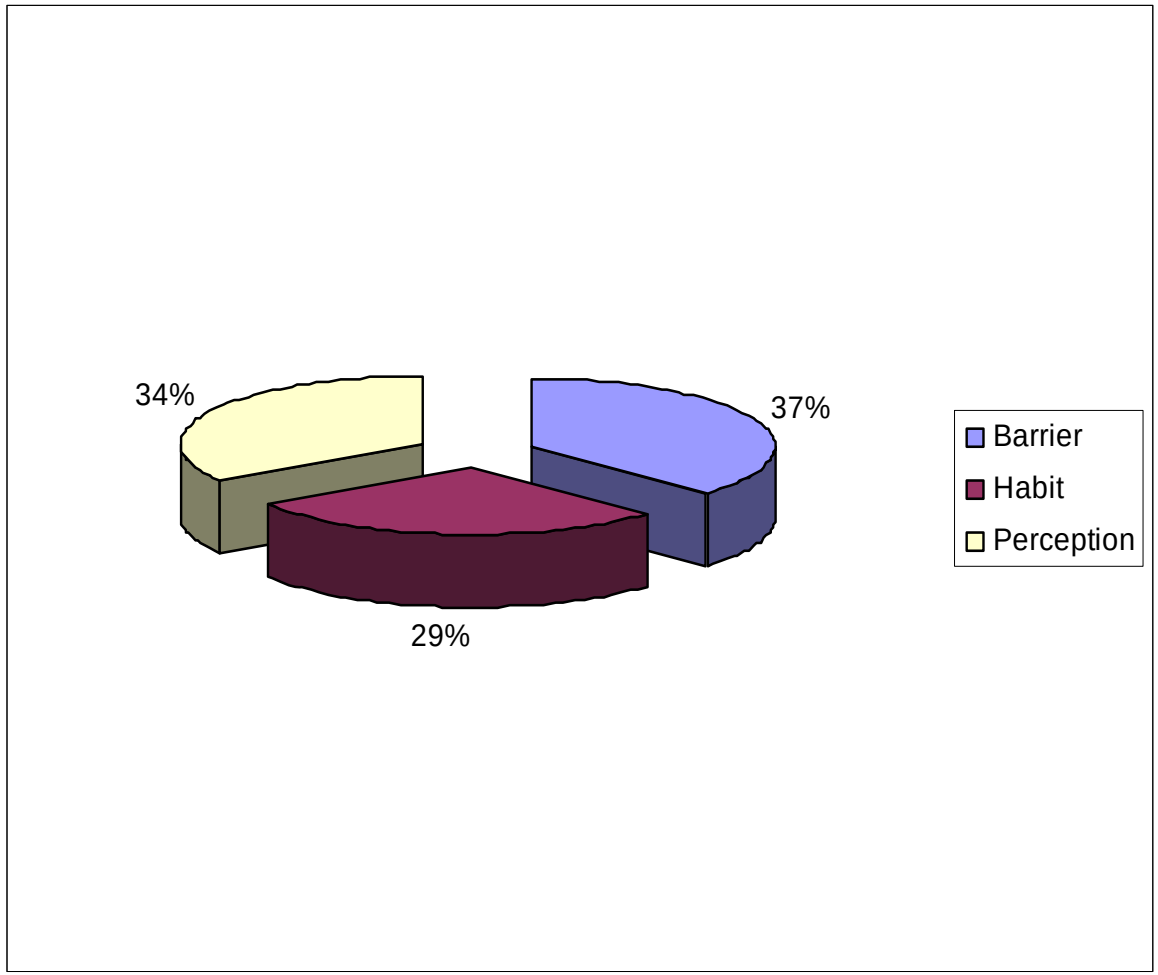
That's the way I always do it!
I don't know.
I didn't think about it.
It's the way we always do it around here



Barriers

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: January-February



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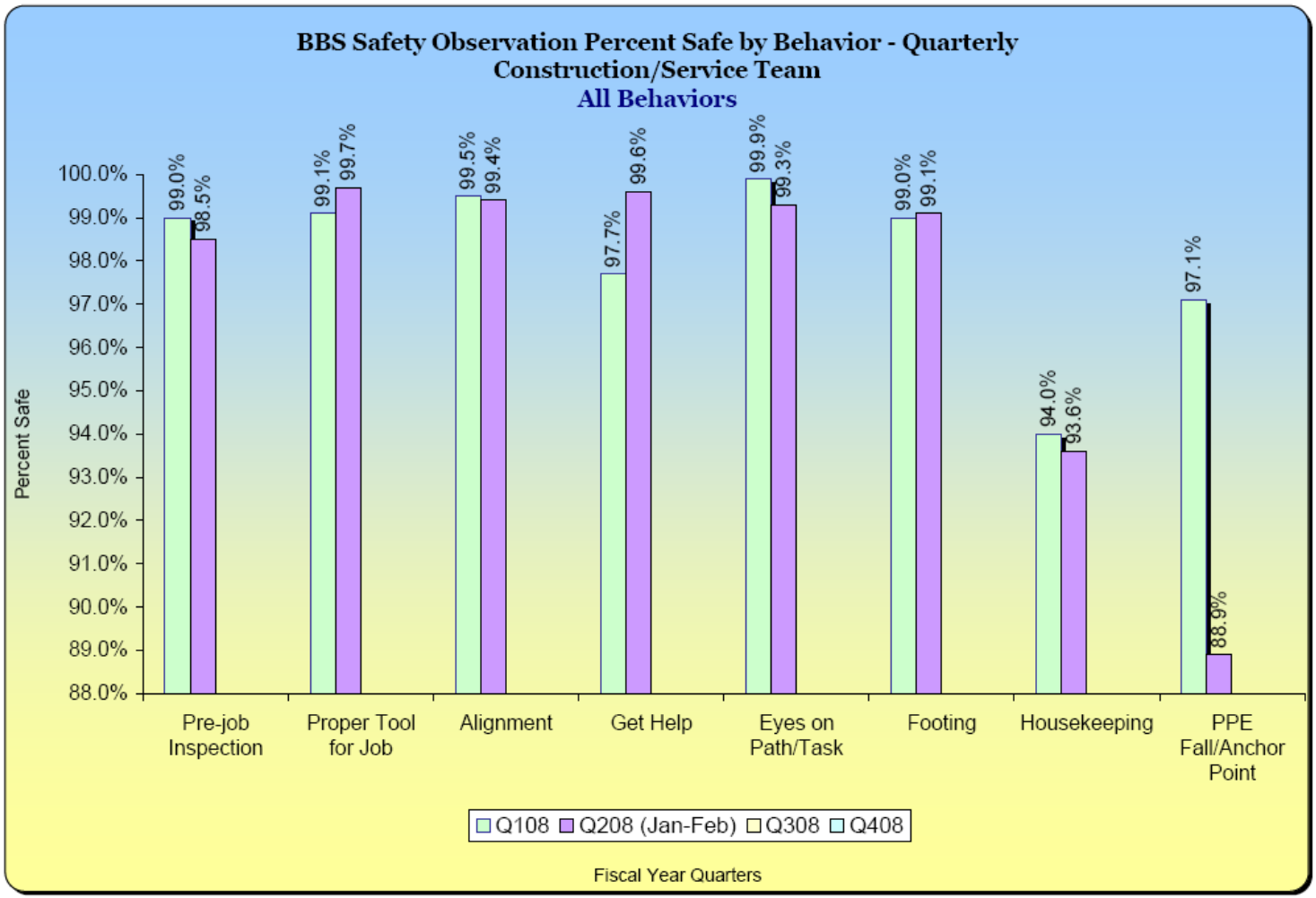
Data Analysis

- Barriers was first category
  - Highest number of concerns: Housekeeping
- Perception was second category
  - Highest number of concerns: PJI and Housekeeping
- Habit was third category
  - Highest number of concerns: Housekeeping and PPE Fall/Anchor Point

BBS Data-LTD



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BBS Program Updates

- Contractor Pilot Program
  - 2nd Qtr (Oct - Dec) Data showed progress for all companies, however not at worker level
  - 3rd Qtly (Jan - Mar) Data Presentation this month
  - Working to develop contractual requirements for new Partnership contracts
  - Pilot program completion date extended to June 2008

823 Pipe Fell Through Wall Penetration

Bruce Bryant

Event Description

- While a contractor was removing an abandoned ¾” steam piping contained in pipe insulation, a section of ¾” X 2’ steel piping slid out of the insulation after it was cut, and fell through the wall penetration, separating a mechanical room & lab, and then through a ceiling tile and onto a countertop in the adjacent lab.
- The lab was unoccupied at the time of the event, and no equipment or property was damaged due to this event.

Lessons Learned

- Pre-Job Inspection: Perform a prejob/task inspection before performing task and assess personnel and areas that may be affected by performing a task.
- Line of Fire: Ensure that sufficient barricading and protective measures are in place, before performing potentially hazardous tasks.
- Notify any potentially affected areas & personnel of possible hazards that may occur due to tasks being performed.

New York City Tower Crane Accident Focuses on Slings

Greg Kirsch

Description of Event

- Investigators in New York City are focusing on what happened during the jump of a 205-ft-tall tower crane on March 15 when workers apparently lost control of a six-ton bracing collar at the 18th floor during installation. Seven people died and 24 were injured, several critically, in the ensuing accident.
- Don Pellow, a crane and rigging engineer in Kansas City, Mo., and publisher of “Bob’s Rigging & Crane Handbook,” says problems with slings fall under three categories: overuse, misuse or abuse.

Description of Event

Area around the fallen crane was cordoned off as rescuers searched for missing persons in the rubble of a building.

Description of Event

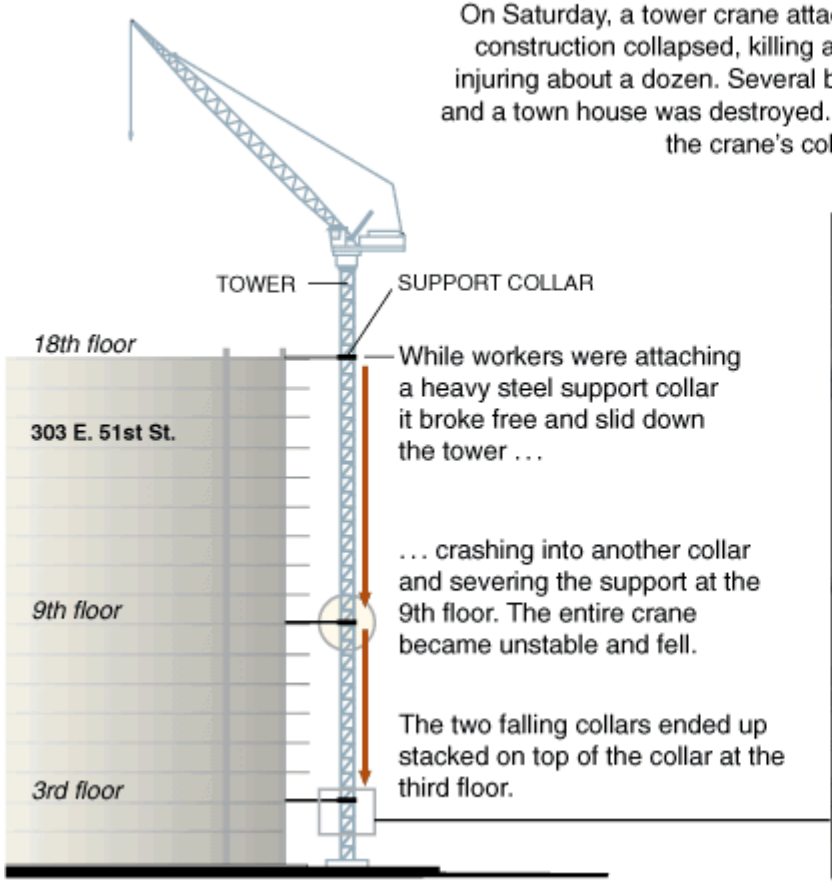
- Expert witness believes that the sling may be the cause. Over half of the cases focus on sling failures, he says. “The number-one failure of nylon slings is cutting around edges of loads.” “It’s very, very important to protect against cutting.” Cutting that occurs on a previous lift would require immediate disposal, he says.

Description of Event

- “Slings shall be padded or protected from the sharp edges of their loads,” according to OSHA’s sling regulation. The expert witness notes that operators often use makeshift materials, even worn-out slings, for the purpose. “I’ve even seen fire hoses used.” “When you get to heavier loads or critical loads you need specially designed edge protectors.” Other problems with slings, especially synthetic ones, include sun bleaching, heat damage and abrasion.

How the Crane Fell

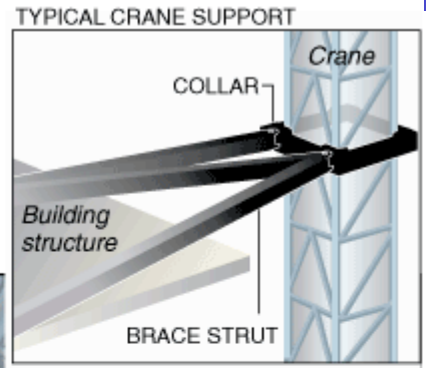
On Saturday, a tower crane attached to a building under construction collapsed, killing at least four people and injuring about a dozen. Several buildings were damaged, and a town house was destroyed. The details of what led to the crane's collapse:

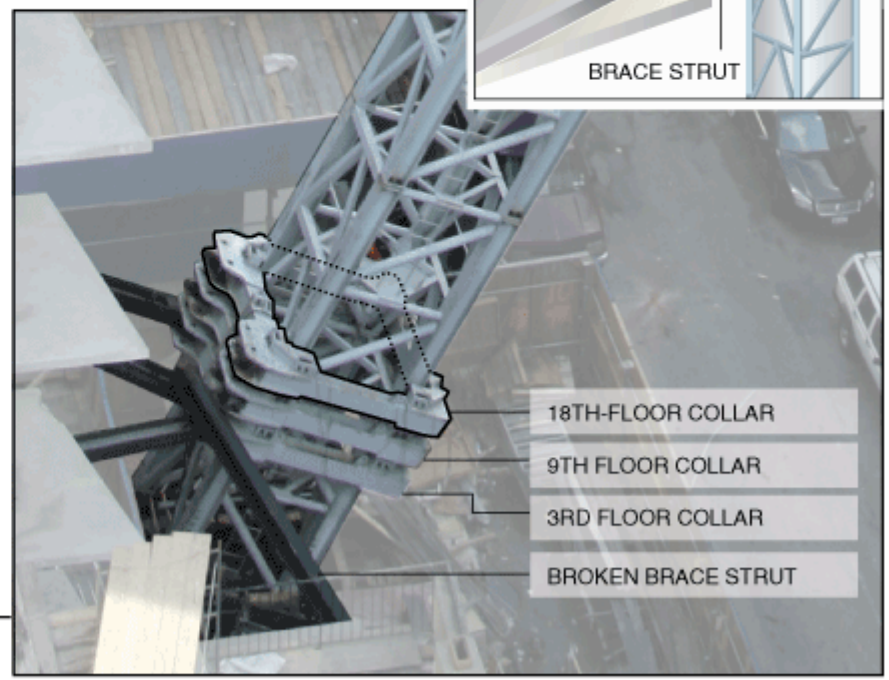


While workers were attaching a heavy steel support collar it broke free and slid down the tower . . .

. . . crashing into another collar and severing the support at the 9th floor. The entire crane became unstable and fell.

The two falling collars ended up stacked on top of the collar at the third floor.





ILLUSTRATIONS BY MIKA GRÖNDAHL/THE NEW YORK TIMES; PHOTOGRAPH BY YASMIN NAMINI/THE NEW YORK TIMES

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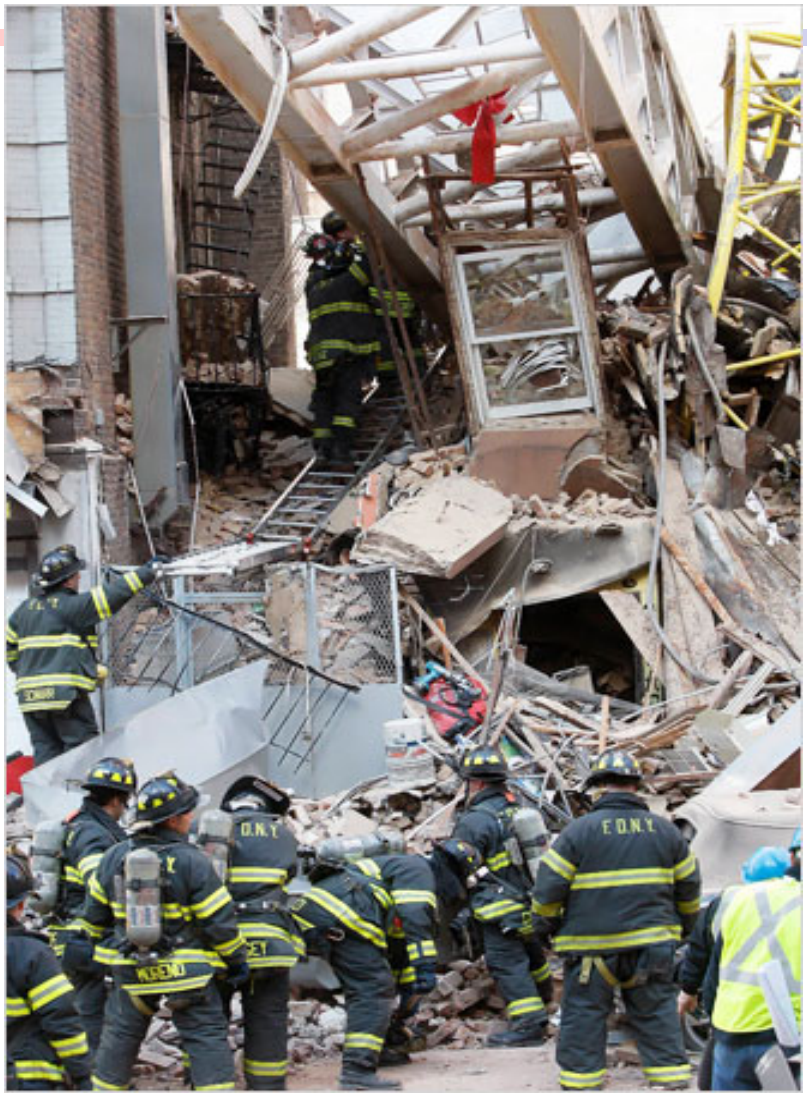

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Manzano Electrical Upgrades

William Tierney

High Risk Tasks

- “First of a Kind” Tasks
  - Ascend up side of mountain in bull dozer with equipment
  - Cable pull up side of mountain
  - Cable raceway in air shaft
- All previous work done with helicopter

ISMS

- Applied ISMS principles to every aspect of project
- Completed with no injuries or near misses

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Material Transport

Raceway

Cable Pull

Safety Stars

William Tierney
Construction and Inspection

Safety Stars
Jan - Mar 2007

NAME	COMPANY
Ray Wolf	Rupert
Emilio Lopez	Del Rio
Mike Abraham	Del Rio
Rick Martinez	Enterprise
Eugene Romero	Enterprise
Floyd Maestas	Enterprise
Ray Heath	JB Henderson

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Safety Stars
Jan - Mar 2007

US Electric Crew	Manzano Repeater Site
James Anagnostelis	Joseph Tratechaud
Martin Garcia	Michael Jaramillo
John Maes	Guillermo Trujillo
Dave Schroeder	John Locker
Steve Lucero	Francisco Olguin
Lorenz Herrera	Phillip Vigil
Joaquin Anderson	Bert Scott
Larry Eckhardt	Anthony Baca

Sandia National Laboratories

Closing Announcements

Construction Safety Seminar Schedule

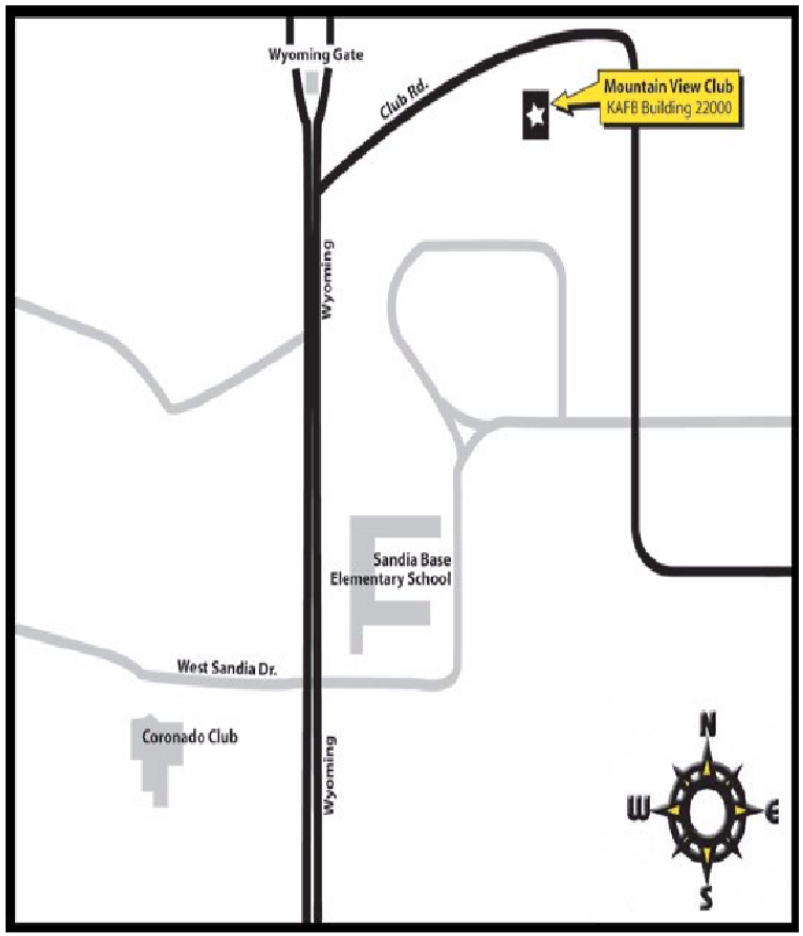
Location: Mountain View Club

Time: 2:00 – 4:00 PM

Next Seminars:

July 8, 2008

October 21, 2008



Sandia National Laboratories

Mountain View Club | April 8, 2008 | 2:00 – 4:00 PM

Contractors Quarterly Safety Seminar

Sign-In Sheet

PRINT CLEARLY

	Company	Name	Position (Safety Officer, Foreman, etc.)	Office Phone	Cell Phone	Email Address
1.	SNL	Greg Kirsch	Safety			
2.	SNL	Mike Ryndak	Manager	844-6042		
3.	Clover Leaf	Diane Morvell	IH	284-9289		dmorvel@sandia.gov
4.	SNL	Dave Anglen	IH	845-1340		dmengle@sandia.gov
5.	SNL	William Tromp	SDR	845-0633		wjtromp@sandia.gov
6.	SNL	Boyd R Smith	SCM	845-3273		brsmit@sandia.gov
7.	RMCI	Craig P Miller	Super	925-9523		CMiller@RMCIinc.com
8.	RMCI INC.	STEVE MOORE	SAFETY	345-0008		SMoore@rmciinc.com
9.	RMCI INC.	L.D. ALEXANDER	SD	345-0008		LAlexander@RMCIinc.com
10.	RMCI, INC.	Michael Loiselle	Project Manager	345-0008		MLoiselle@rmciinc.com
11.	JB HENDERSON	JOHN J. ORTEGA	SAFETY REP.	292-8955		jortega@jbhenderson.com
12.	EESI	JOEY SOLIS	PM	804-3842		JSOLIS@ENTELCOMM.COM
13.	ENTERPRISE ELECTRICAL	ANTONIO GONZALES	SAFETY REP	275-9369	319-4411	
14.	EESI	Toby Garcia	P.M.	275-9369	319-6763	com
15.	US ELECTRICAL	JOHN MAGES	FOREMAN			
16.	U.S. ELECTRICAL CORP.	LARRY ECKHARDT	PM	260-1000	331-8337	larrye@uselectricalcorp.com
17.	U.S. ELECTRICAL	JAMES GARCIA		260-1000	401-6000	jamesg@uselectricalcorp.com
18.	ECI	Scott Gifford	PM/Safety	268-9920	449-7716	sgifford@eciconnect.net
19.	TEF Construction	Emily Miller	Safety	293-2343	269-0438	TEFconstEM@aol.com
20.	DEL RIO ENTERPRISES INC	NEIL LUNDAY	PM	741 9055	977-5898	nlunday@drec-nm.com
21.	Cross Connection Inc	Phillip Ramirez	Super	344-4834	507-2345	
22.	JBhenderson (JBH)	Barb Spitz	Safety	2928955	975-1461	bspitz@jbhenderson.com
23.	Business Environments	Mike Domin	Safety/FSO	830-7872	401-0444	Same as before
24.	BRYCON	Gary Benavidez	PM	450-1274	same	gbenavidez@brycon.com
25.	SNL	Pamela Sayers	Safety	284-4604		psayers@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.	SNL	Linda Sells	Admin	844-8552		lesells@sandia.gov
2.	DOE-SSO	Wayne Walker	FR	845-4240		wwalker@doeal.gov
3.	Del Rio Ent Inc	Emilio T Lopez	FR	341-9055	239-7116	
4.	DEL RIO ENT INC.	MICHAEL G. ABRAHAM	JA	341-9055		
5.	DEL RIO ENT	JACOB BARELA	SA	341-9055		
6.	RUPERT PLUMBING CO INC	RICHARD RUPERT	OWNER	247-8138		richard@rupertph
7.	Rupert Plumbing Co.	Chris A. Augster	PM/Safety	247-8138		chris@rupertph.com
8.	[illegible]	[illegible]	[illegible]	327-0762		
9.	ENTERPRISE ELECTRICAL	JOSH MONTOYA	AP	275-9369		
10.	Enterprise Electric.	FLOYD MAESTAS	JW.	275-9369		
11.	Bob Pacheco Banda Group	Bob Pacheco	Safety	896-8080	850-5305	bob@bandagroupintl.com
12.	~~Luis Arteaga~~ SNL	Luis Moreno	ESH	844-6118		lgonmerc@sandia.gov
13.	SNL/COMPA	ROGER BELL	SCO	284-2098	331-6785	rodbell@sandia.gov
14.	DONNER Plumbing	JACKIE GLEASON	Proj. Mgr.	884-1017	991-2717	rjackiegleason@yahoo.com
15.	B&D Industries, Inc	MATT BAKER	Risk MGMT	299 4464	980 1459	Matt@b-d-electric.com
16.	ALPHA Construction Services	John Martinez	~~Safety~~ R.S.O	883-4761	530-4121	Mike@AlphaRoof.com
17.	Compa Industries	Rick Johnston	Const. Observer	844-1909	264-2949	rmjohns@sandia.gov
18.	SNL	DAVID HOFMANN	INSPECTOR	844-1905	264-3908	DJHOFMA@SANDIA.GOV
19.	SNL	John Hardig	Bldg Insp	845-3167	235-7679	Jhardi@sandia.gov
20.	Summit Const	RAY MOYA	Gen Supt.	842-8113	980-4405	raym@summitconstr.com
21.	Summit Const.	Richard Passwater	Supt.	842 8113	228-3689	richard@summitconstr.com
22.	Summit Const	Steve	Supt	842 8113	489-6902	steve@Summitconstr.com
23.	SNL	KAREN PRINKE	PM	284-9717		kaprink@sandia.gov
24.	Compa	Carol Bicher	PM - FE	2841748		cbicher@sandia.gov
25.	B+D Electric	Josh Martinez	Frm	299-4464	975-7315	Josm@B-D-Electric.com

Mountain View Club | April 8, 2008 | 2:00 – 4:00 PM

Contractors Quarterly Safety Seminar

Sign-In Sheet

PRINT CLEARLY

	Company	Name	Position (Safety Officer, Foreman, etc.)	Office Phone	Cell Phone	Email Address
1.	B&D Ind	Kenny Easley	P.M.	299-4464	991-3073	keasley@bdelectric.com
2.	SNL	BRYANT REYES	INSPECTOR	284-2946		BREYES@SANDIA.GOV
3.	AMEC	Robert Carr	PM	264-9201	264-9201	robert.carr@amec.com
4.	TRIANGLE PAVING	ANTHONY TAGLIALEGAMBA	S.O.	247-2970	250-0477	tripave@msn.com
5.	SUMMIT CONST	MARK TIONS	FOREMAN	842-8113	263 0851	MARK@SUMMITCONSTR.COM
6.	Southwest Hazard Control	Luis Olague	Project Manager	298-6930	228-0622	lolague@swhaz.com
7.	ATC New Mexico, LLC	Chris French	Senior Project Manager	844-1693	N/A	cafrenc@sandia.gov
8.	SNL	WES MOZLEY	MTS	844-6288		wrmozle@sandia.gov
9.	~~DAVE HENDRIX~~ SNL	Dave Hendrix	Inspt	844-1773	235-9674	dchendr@sandia.gov
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