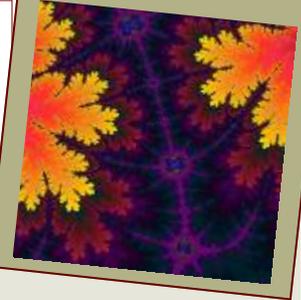


## Construction News Sense



September 2008

See page two for an article on scaffold concerns.



### Lessons Learned – Electrical Incident

#### Sometimes we get lucky!

This summer, an incident occurred involving a subcontractor foreman and a carpenter (both non-electrical workers) working on a remodel project to remove some metal wall sections. Before electricians working for the electrical contractor arrived on the site to de-energize the electrical systems within the wall sections identified to be removed/relocated, the carpenter had already removed some of the base plates and caps strips that did not contain electrical receptacles or switches. When the electricians arrived, they warned the carpenter not to remove any remaining base plates until the electrical circuits were identified, de-energized, and locked and tagged out of service (LO/TO).

Soon thereafter, the carpenter noticed the metal “chair” (support device) holding the metal partition above the next section of base plate to be removed would be an obstacle to removing the base plate. Thinking the chair could be safely tapped down, the carpenter placed a screwdriver on the side of the chair and began tapping it with a rubber hammer before the circuits were de-energized and LO/TO. As the chair moved, an electrical conductor supplying power to a 120-volt receptacle was pinched. This tripped a 20-amp single-pole breaker in the electrical supply panel. Fortunately, the energized (hot) wire directly short-circuited to the metal framing, which was grounded at several points.

This short-circuit fault tripped a 20-amp breaker, as it should have, and no personal injury resulted. However, think about what might have happened had the short-circuited electrical

current not gone directly to ground. What if the current had gone to ground through the carpenter’s hand or other body parts?

#### Electrical Shock



The possible effects of an electrical shock range from a mild tingling sensation to heart failure, depending on the amount of current that passes through the body. Electric currents as low as 50 milliamps (0.05 amps) can cause heart fibrillation (arrhythmic contractions of the heart muscle), which can be fatal. Shocks from lower currents can also cause respiratory paralysis, likewise potentially fatal.

The severity of a shock is determined by the amount of current that passes through the body and the path the current takes. An electric current passing through the heart is more likely to result in death than if the same current passes from one finger to another. Besides the possible direct symptoms of pain, paralysis, heart fibrillation, and tissue burn, a victim of electrical shock may feel confused and experience amnesia and headache.

In this incident, the carpenter was lucky. The next time he disregards a safety warning, the outcome might not be as fortunate.

**Randy Fellhoelter, 4122**

## FMOG Leading Indicators Show Scaffold Concerns

Over the past three months, there has been a spike in observations of scaffold safety noncompliance at SNL. The observations include improper work practices as well as inspection and installation issues. Scaffolds must always be **erected, moved, dismantled, or altered** under the **supervision of a person** qualified in such activities. All workers should be trained in their proper use. Assessing the competence of personnel constructing or using scaffolding should be a part of all phases of scaffolding inspections.

The following paragraphs are developed as an aid for scaffolding safety considerations during construction activities.

A stable structure cannot be built on a foundation that is not square and level. There are OSHA standards that apply specifically to procedures for ensuring a stable scaffold base. To control the risk of a scaffold falling or collapsing, employers must build scaffolds according to OSHA standards for strength and structural integrity.

Workers are most likely to fall when climbing onto or off a scaffold. For this reason, employers are required to provide safe scaffold access. While on a scaffold, the primary hazard for workers is falling. Fall protection is provided by either a personal fall-arrest system or a guardrail system and must be used on any scaffold 10 feet or more above a next lower level. Scaffold erectors and dismantlers face additional access problems because of the incomplete condition of the scaffolding; this condition needs to be addressed.

The platform is the work area of the scaffold (except when it is used only as a walkway and safety checks of both the platform structure and its manner of use are required). Once a scaffold is built, even if it is compliant with all standards relating to footings, structure, capacity, etc., it still will not serve as a safe work area if it does not remain upright. Generally, a scaffold will become unstable once its height is four times its smallest base dimension regardless of whether it is plumb and square. Extreme weather or damage to structural components can also affect scaffold stability.



An estimated 2.3 million construction workers (65 percent of the construction industry workforce) frequently work on scaffolds. Protecting these workers from scaffold-related accidents would prevent 4,500 injuries and

50 deaths every year, resulting in savings for American employers of \$90 million from work days not lost.

This is an opportunity to evaluate and improve your scaffolding program prior to an event. The use of these leading indicators is key to a continuous improvement program and meeting our objectives of an injury free environment.

**Greg Kirsch, 4844**

Reminder  
Quarterly Construction Contractor  
Safety Seminar

October 21, 2008  
Mountain View Club  
2:00–4:00 PM

