

TerranearPMC Safety Share

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Week of July 1, 2019 – Ethyl Mercaptan and the Short Fall

The foreman was angry. He'd been in construction for 20-plus years and now the safety person was telling him not only how to do his job but that he'd been doing it wrong forever! Joe Donnelly looked exasperatingly at Ethyl, turning away every few seconds while looking back at his crew, reading their faces to see their support. But while their eyes were saying "Yeah, Joe, stand up to the safety chick," no one uttered a sound. He was on his own. Better calm down and talk.

Ethyl Mercaptan – the Project S&H Supervisor – looked on in silence.

The issue was that Joe's two workers were on a platform constructed with three 10-foot wood planks that were three feet above the floor decking. The planks were 5 inches wide and extended over a foot beyond the two end supports. Underneath were two rows of rebar with protective caps. There was no railing and the work they were doing – carrying 30-pound sacks of dry mortar from one end of the platform to the other – was only going to take half a day. According to everything Joe had been taught, work was being performed in accordance to OSHA regulations. So why was the safety supervisor stopping his job?!

The two walked away from the immediate work zone. Joe took a deep breath and began.

"OK, Ethyl what's wrong?"

"What's wrong?" Ethyl responded. "What's wrong is that your guys are working under a number of conditions that can result in any number of serious injuries."

"Ethyl, I am familiar with OSHA's Fall Protection standard and I know fall protection is required at six feet. I personally measured the distance from the platform to the ground and we are nowhere even close to six feet! And for scaffolds, that distance is 10 feet. And that means fall protection is not required.

"Do you not see the obvious hazards that can easily lead to a serious injury – even a fatality? I mean with your guys working so close to the unprotected edge of this make-shift platform? Not to mention they are working directly over some rebar that, should those wood planks break...well, I can only imagine the outcome."

Joe was ready to respond, and Ethyl had a good idea of what he was going to say. But in the name of fair play, she stood back and waited to hear Joe's concern.

"Ethyl, those pieces of rebar have caps on them. That's what they're for...to protect a worker if they fall.

Well, it turns out that Joe does have a point. According to the OSHA Fall Protection Standard for Construction, 29 CFR 1926, Subpart M, "Each employee on a walking/working surface (horizontal and



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vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.” In addition, the rebar was capped, thereby acting as guarding to control the obvious impalement hazard.

So why did Ethyl pause work?

Technically, the three planks constitute a scaffold. According to OSHA’s Scaffold Standard (29 CFR 1926, Subpart L), a Scaffold is any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage), used for supporting employees or materials or both.

When scaffold platforms are more than 2 feet above or below a point of access, portable ladders, hook-on ladders, attachable ladders, stair towers (scaffold stairways/towers), stairway-type ladders (such as ladder stands), ramps, walkways, integral prefabricated scaffold access, or direct access from another scaffold, structure, personnel hoist, or similar surface shall be used (29 CFR 1926.451(g)).

In addition, scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design. The scaffold used by Joe’s crew seems to have been put together without the knowledge or expertise of a qualified person – a basic OSHA requirement as detailed in 29 CFR 1926, Subpart L. Also, the planks extend beyond the designed 12-inch extension (for platforms 10 feet or less). The obvious hazard is that should one of the workers walk over to the end, there is a strong likelihood that the plank will tip over. And a fall while a person is carrying a 30-lb bag can be devastating; even if the fall is only 3 feet!

Along their length, the three planks have a combined width of 15-inches; that’s less than the required minimum width of 18-inches. Now, what about the rebar underneath? Because the platform system was not designed or constructed by a competent person (this is an assumption), there is no way of telling what the planks’ load capacity may be. And should any one of these planks fail, what could be the possible outcome when a worker falls on top of one of the rebar? – protected with caps or not?!

Finally, while there is a 6-foot requirement for fall protection – which would require a railing (top rail, mid-rail and toe board), safety net systems or personnel fall arrest systems (aka full body harness, lanyard and anchor point), the OSHA general duty clause (written in the Occupational Safety and Health Act of 1970), requires employers to furnish to each of its employees a workplace that is free from recognized hazards. As such, while there is a specified minimum distance to provide fall protection, Ethyl is right that certain workplace controls need to be included, regardless of specific performance-based regulatory requirements.

Give yourself an impossible task and solve it - then you've got a really good story - Carl Reiner

