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Effectively Addressing Unexpected Fall Protection Needs

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Introduction

Ideally, you are working through an effective managed fall protection program to address the fall risk for your workers at heights. But, what do you do when an unforeseen fall protection need arises? Do the right people know what to do when work requires an unexpected need to perform a task at heights?

While it's critical to work through a coordinated, proactive fall protection program, it is just as important to react appropriately when an unanticipated issue surfaces. More specifically, you want to proactively plan how to respond—so you aren't simply reacting—when these situations arise. This paper summarizes options to consider when planning methods to address unexpected fall protection needs.

These options include:

- Doing nothing (although this is not really an option)
- Portable guardrail
- Scaffolding
- Lifts
- Personal protective equipment

While PPE options are often selected for addressing unexpected fall protection needs, it's important to note that simply giving people fall protection equipment is not enough to protect them from unpredicted fall hazards.

Proactive is the Goal

According to fall protection regulations and standards, organizations should not be simply reacting to unforeseen fall hazards. Several references indicate that proactively identifying fall hazards is a requirement.

ANSI Z359.2 states: "Prior to preparing fall protection procedures, a fall hazard survey shall be performed for every workplace activity where authorized persons are exposed to a fall hazard." (Section 4).

ANSI A10.32 states: “Each employer on the work site shall be responsible for analyzing the project to detect fall hazards to employees and shall eliminate the hazard or provide protection against falls to the employees.” (Section 3.0) The standard further states in Section 3.1.1.: “Prior to the start of work on the project or phase, each employer shall conduct a survey of the job site, review drawings and conduct discussions as applicable with one or more of the following: owner, engineer, general contractor and/or construction manager to define/eliminate fall hazards.”

ANSI standards have acknowledged the necessity of an assessment to ensure that hazards are identified and appropriate protection provided before the worker is exposed.

The proposed OSHA 1910 general industry regulations also reference the need to identify fall hazards. 29 CFR 1910 Subpart I states: “The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE).” Related to the hazard surveys mentioned, the proposed regulation identifies categories of hazards that need to be identified. Under 1910.28, it lists what types of hazards need protection. Then, 1910.29 provides a list of references to help ensure that fall protection solutions, such as guardrail, stairs and personal fall arrest systems, are compliant with the requirements.

The OSHA Injury and Illness Prevention Program also highlights the need for fall hazard identification. In addition, hazard identification and assessment are also included as one of OSHA’s Safety Program Core Elements. OSHA documentation on the core element says: “The employer must systematically identify and assess hazards to which employees are exposed and assess compliance with the General Duty Clause and OSHA standards.”

OSHA also references the need for hazard identification through its Voluntary Protection Program (VPP), which emphasizes worksite analysis. Some of the specific measures recommended for worksite analysis are:

- Conduct comprehensive baseline worksite survey for safety and health and periodic comprehensive update surveys and involve employees in this effort.
- Analyze planned and new facilities, processes, materials, and equipment.
  - This is often referred to as Prevention through Design, where hazards are identified and addressed during the programming and design phase of a project.
- Perform routine job hazard analyses.
  - It is important to note that job hazard analyses are typically reactive in nature, being performed just before work needs to be done.
- Assess risk factors of ergonomics applications to workers' tasks.
- Conduct regular site safety and health inspections so that new or previously missed hazards and failures in hazard controls are identified.
- Provide a reliable system for employees to notify management personnel about conditions that appear hazardous and to receive timely and appropriate responses and encourage employees to use the system without fear of reprisal. This system utilizes employee insight and experience in safety and health protection and allows employee concerns to be addressed.
- Investigate accidents and "near miss" incidents so that their causes and means of prevention can be identified.
- Analyze injury and illness trends over time so that patterns with common causes can be identified and prevented.

Options

When evaluating options for providing fall protection, the way you ask the question can dramatically affect the results. If you ask, "Can you provide a compliant fall protection system in this area?" then the answer "no" becomes an option. A different way to develop solutions is to ask, "What will work best to protect workers in this area?"

This approach tends to be more effective because it includes input from workers. Some people refer to engaging workers to develop solutions as the 20-foot principle. This principle states that when trying to solve a problem, it's best to discuss the issue with people who work within 20 feet of it, since those individuals have most likely had to deal with the issue for a significant period of time. Therefore, they have probably already tried to figure out how to solve the problem. While solutions they propose may not be compliant, they will generally have more buy-in on the final solution since they contributed to developing the original idea for abating the hazard.

Regardless of how the process begins, there are essentially five main options for addressing unexpected fall protection needs.

Option 1: Do nothing

You can just leave it up to the people on your staff to solve the situation. But at the end of the day, this is not a proactive approach and won't solve anything. Unfortunately, however, many organizations effectively choose this option by turning a blind eye to fall protection issues. While this is an option, it is obviously not recommended.

Option 2: Portable guardrail

Portable guardrail can be used at different locations. When proactively addressing an issue with guardrail, permanent guardrail is the preferred solution—especially if the task is frequent. For an unexpected fall protection need, there wouldn't be time to fabricate guardrail and have it permanently installed. Some variations of this option are warning lines or designated areas, as defined in the proposed OSHA 1910 regulations. In short, this option provides a physical barrier between the workers and the hazard.

Option 3: Scaffolding

The great thing about scaffolding is that it is often an engineering control that requires very little, if any, use of a harness or lanyard. Many petrochemical facilities have scaffold builders and contractors on site ready to erect, inspect, and dismantle scaffolding to access any location within the facility. While many other manufacturing sites do not need to have a scaffolding contractor right on site, they often have resources nearby that can serve in this role.

Option 4: Lifts

Aerial lifts provide functionality and versatility to abate a number of hazards in the workplace. Unfortunately, you might not have the aerial lift you need on site. Therefore, one thing to consider for this option is identifying what types of lifts are available at your site or in your local market. This may include contacting your local sales person so that they can become more familiar with your site before an actual need arises.

Option 5: PPE

While PPE is the least effective and most defeatable option according to the Hierarchy of Controls, it is sometimes the most feasible choice for addressing unexpected fall protection needs.

If PPE is the selected option, the following lists provide some recommendations on things to do and things to avoid when implementing PPE.

Things to do

- Conduct anchorage survey: this helps supervisors and users easily understand where acceptable anchorages are in the facility.
- For AP training, address hazards and equipment they use: this makes the training most applicable to the user, which enhances retention and proper application of the information in the field.
- Prepare generic use and rescue procedures for different system "types": While these generic procedures will have to be modified and trained on for the specific situation, having generic procedures in place defines how specific system types should be used, sets limits for use, and provides employees training on different system types. The key benefit to creating generic procedures is that the best practices and limitations can be defined proactively instead of reacting to a given situation when time is not on your side.

Things to avoid

- Allow competent persons to identify an anchorage without any guidance from a professional engineer or qualified person: Professional engineers are prohibited by state law from designing a certified anchorage without proving that the existing structure is adequate. However, OSHA and ANSI technically allow someone who is not a professional engineer to do something that a professional engineer trained in the analysis of structures cannot do. You can set a standard for your organization that ensures all anchorages are identified by a qualified person or professional engineer.
- Just give a worker a harness and lanyard (or dual-legged SRL units): for an active fall protection system to function properly, many factors have to be considered. Simply handing someone equipment is not enough to ensure that they have the proper anchorage, configuration, fall clearance, equipment compatibility, procedures and training. All these elements are needed for a functional fall protection system.
- Building your system in the wrong order (see Exhibit 1)

Although commonly used, the process on the left below is not the most effective. With this approach, training is provided to employees and a common selection of personal protective equipment is given. With these basics addressed, workers go to the field and determine where to anchor the system and in many cases, improvise a procedure. This process has several shortcomings, with the most significant being compatibility of the equipment with the anchorage. The incompatibility could be related to geometric issues, capacity issues, fall clearances or any number of items.

The process on the right side below develops a system in a more logical manner. This process starts with determining appropriate anchorage points. Once the potential anchorage locations are known, the right equipment can be selected. For example, if the only anchorage available is at feet level, a 12 foot free fall lanyard is required. After the system is selected, the anchorage is designated and the equipment is specified. Then procedures can be written and specific training on the complete system can be provided.

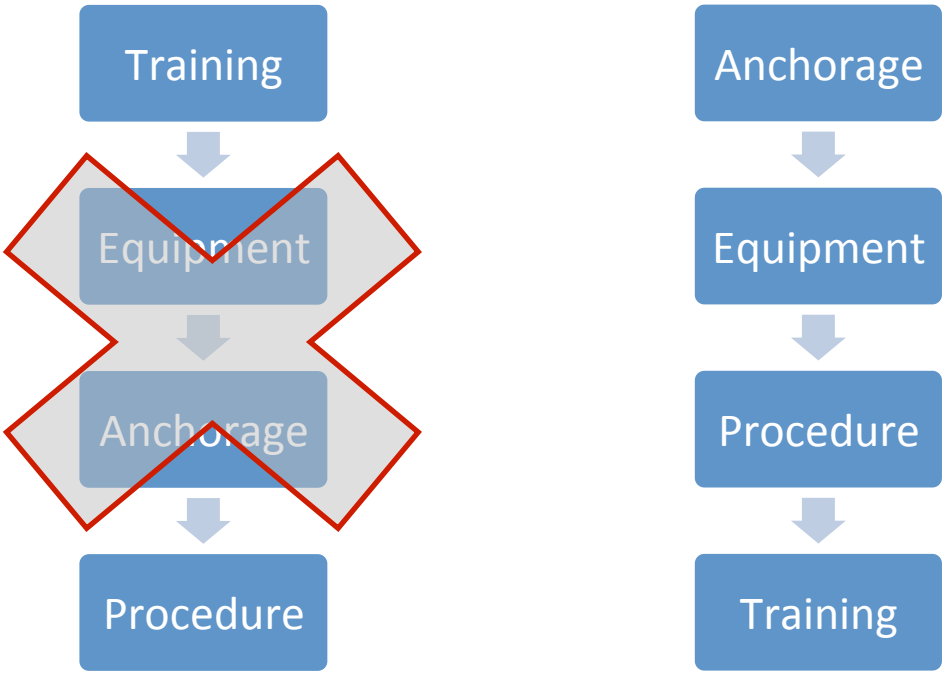

Exhibit 1: This graphic compares a common, but incorrect, method for developing active fall protection systems with a correct practice.

Conclusion

The key to effectively addressing fall protection needs is to be as proactive as possible about your fall protection program. The most important thing you can do is assess your facility or worksite and identify the potential fall hazards before workers are exposed. Then you can have abatement plans in place for when a worker will be exposed to a hazard even if you are not able to address all hazards immediately.

Some organizations choose not to identify hazards because they believe acknowledging the hazard means that they have to abate the hazard right away. The reality is that the risk exposure is present whether you acknowledge them or not. In fact, organizations effectively subject themselves to more risk because the options available to abate the hazard may be limited by lack of planning.

Even if you've proactively identified hazards, an unexpected fall protection need can still arise. When you develop feasible options for addressing the few remaining unexpected needs, they can be addressed safely and efficiently. When lives are at stake, don't rely on last-minute solutions—work now to make sure you're ready when an unforeseen fall protection need arises.