

# Developing a fallen worker rescue plan

BY KENT JORGENSEN



IMAGE COURTESY DEPARTMENT OF LABOR & INDUSTRIES (WISHA)

MANY COMPANIES that put on entertainment or exhibition events don't realize they are supposed to have plans for dealing with reasonably predictable hazards the public and their workers might face before, during, and after their event. These plans include everyday issues from crowd control and occupational safety to emergencies like fires, weather, earthquakes, and violence. One of the many required plans is for rescuing a worker who has fallen and is now hanging from a fall arrest harness.

An employer that has oversight of work that is being done at heights is supposed to have a fall protection plan as part of their Health and Safety Program. If the plan includes using fall arrest systems, the plan should be in writing and include procedures for a prompt rescue of a worker who has fallen.

The reason for this requirement is the hazards associated with hanging in the fall protection harness. Gravity, restricted blood circulation, and shock are all potential problems. While there are some debates over how quickly a prompt rescue has to be performed, letters of interpretation from OSHA say that the time necessary for the rescue has to be evaluated according to the potential hazards of doing the work using fall arrest equipment.

Implementation of a high angle rescue plan should start well before preproduction. The plan should as a minimum:

- Determine response procedures
- Determine the chain of command
- Determine necessary resources
- Determine training required for rescuers

To determine the response procedure, a competent fall protection person needs to first evaluate the hazards associated with a person taking a fall at the venues where work will be done. Some of the concerns will include the type of arresting equipment being used, if there is a chance of striking any structure or equipment during the fall, what equipment is available to perform a rescue, how many people might need to be rescued at one time, what is the height where the rescue will be performed, how can a sufficient anchor be established, and so on.

Another issue to consider is the

availability of municipal emergency responders to assist in a rescue. Are these responders able to provide the prompt action necessary in an emergency? The fire house may be next door to the venue, but what happens if they are out on another call?

Several different types of rescues are available to be chosen for use. These include: self-rescue, assisted rescue, lifts, ladders, descent devices, ascent devices, pulley systems, rope access techniques, and hoists are among the choices. Each type of rescue will require its own procedure within



Rescuers practice stabilizing a possible neck injury before completing the rescue.



A "rescue cradle" with a block and fall are used to allow a single rescuer to ascend to the victim and then lower them to the ground.

## Each type of rescue will require its own procedure within the larger emergency response plan.

Rope access techniques are another option for rescues. These techniques are used both for accessing places to work and rescue. Because of the ability to plan and prepare ahead of time for the rescue, rope access techniques are not usually necessary.

Part of the evaluation will include to what level of first aid the on-site rescuers will use with their rescue. If the victim is unconscious, this may indicate a head/neck/back injury. If the on-site rescuers have not been trained in how to stabilize this type of injury, their training would have them bring the victim down and just touch their feet to the ground. They would then check heartbeat and respiration, and wait for rescuers trained to handle a potential neck injury.

Once the evaluation is completed, the emergency response procedures need to be written up. It starts out with a chain of command and an explanation of the roles of everyone involved in the rescue. The procedures should include not only the workers who perform the rescue, but the workers needed for other jobs. Someone will need to send a line down to relieve the stress of the harness. A person is usually asked to talk to the victim keeping them calm and preventing shock. The emergency responders must be called. The ambulance should be met and a path to the site of the incident needs to be cleared.

The procedure process starts early by notifying other rescuers when fall arrest activities will be going on and require the equipment and personnel needed for the rescue be in place in the case of an emergency. It will provide a form to be filled out before the start of the day's work. The form will be used as the basis for a safety meeting to tell those involved with the fall arrest work their part in the safety plan. The

procedure will list the equipment available for acceptable types of rescue, will describe how to choose the type of rescue to use, will describe when to call for assistance from other emergency responders, and will define the steps to follow up on victim and impacted equipment.

Once the procedure for the rescue plan is completed, it is necessary to identify and train the workers in their part of the rescue. The training should not be just a single session; training should be scheduled on a regular basis.

Now, the company has a fall rescue plan. The procedures have been outlined. And, the workers have been trained. When an event is planned, and it is being prepared for, there is a point before the event that

the larger emergency response plan.

Here are some things to consider when choosing types of rescues. Ladder rescues are limited to the length of the ladder in relation to the possible heights a victim will be hanging. Wire rope ladders and the use of ascent devices while possible, require the victim to be in good enough shape after the fall to climb to safety. Pulley (block and fall) rescues may require an unmanageable amount of rope for the distance required to lower someone to the ground. (A four-to-one block and fall with an anchorage 100' above the stage floor requires 500' of rope.) There are some descent devices that provide a mechanical advantage using gears. These devices have many of the advantages of a block and fall, but don't need the same amount of rope.

Personnel lifts can be great, but they need to be long enough to perform the rescue and there must be open space below the victim. In the last few years, some companies have come up with some hoists/winches that can be used for rescue. Some of these provide a lot of flexibility for performing rescues. But, if the electricity goes off, they may not work.



Hands-on training with periodic practice of rescue techniques will help to provide for an effective rescue.

a site-specific survey should be done. The fall program manager needs to evaluate if changes at the venue, changes in production specifics, or changes in personnel require modification of the plan, additional training, or equipment.

## . . . all the people involved with an event have an interest in preventing accidents from happening.

Because of the nature of the entertainment industry, many of our workplaces have multiple employers involved in the work. Other companies' workers may also need to be included in the fall protection plan.

As the culture of safety matures in the entertainment industry, and entities like ESTA and the Event Safety Alliance push safety, safety plans will become more prominent. Who is responsible for these plans is still being worked out. But, what is true is that all the people involved with an event have an interest in preventing accidents from happening. Working together on implementing safety plans is beneficial for everyone. ■



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