WORKSHOP SESSION SUMMARY

POST-CONFERENCE PROCEEDINGS

2018 National Trainers' Exchange

1. **Session Title and Presenter's Contact Information:**
   Workshop title: #40 Falls – Let's Stand Down!
   Presenter (s) Name: Tina Crum and Ronald Place
   Presenter Organization: IUOE National Training Fund
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2. **Workshop Summary:**
   As part of the 2018 National Safety Stand-Down fifth annual event the week of May 7-11, the IUOE National Training Fund is presenting a session on Falls in Construction. With all the media and OSHA's focus on preventing falls, it remains No. 1 on OSHA's Top 10 most frequently-cited workplace safety violations and continues to be one of Construction's Fatal Four.

   The NTF will focus on suspension trauma and falls from heavy equipment and vehicles. The NTF will demonstrate personal fall arrest systems (PFAS) with suspension trauma straps and users will be have the opportunity to inspect various PFAS components. Workers need to understand that if they do fall that they could experience orthostatic intolerance and venous pooling, they may be unconscious or immobile, they may be in shock or have other injuries; all of which could lead to death. Through training, appropriate PFAS and a proper PFAS fit workers can protect themselves from these consequences. Fall protection and fall protection training are important.

   Falls from construction equipment can cause serious injuries. The larger the equipment, the greater the fall distance, and the more severe the injuries. Many falls occur because of oil and mud accumulation, ice and snow in cold weather, and human tendencies to jump or step long distances. The NTF will conduct a toolbox talk on the safe procedures for getting on and getting off equipment.

3. **Methods:**
   Fall Protection has remained #1 on OSHA's Top 10 Citations list from 2011-2017, and in the top three since 2001. In 2017 it was listed twice on the Top 10 list: first in Fall Protection Construction and ninth in Fall Protection Training Requirements. With all the attention and efforts from OSHA, such as OSHA Susan Harwood Training Grants and OSHA's Fall Prevention Campaign, Fall Protection remains at the top of the list for employer violations.

   For Operating Engineers, over half of injuries from slips and falls are from getting on and off equipment. Are operators taking the task for granted, are employers taking the operator's knowledge for granted, or could it be just a lack of training? Regardless of the reason(s) TRAINING is the key. Safety starts with you, the trainer, and then your job is train workers to be safe.

While working on heavy equipment operators must remember the following safety guidelines:

- Operators must remember the three-point rule for climbing up and down – only one hand or foot should be free at a time. Over time complacency can become a hazard, causing the operator to forget this rule.
- Never jump from the equipment. Although the operator may not experience a fall or injury, over time this action can cause damage to the knees, ankles and other parts of the body.
- Proper non-slip footwear is essential to preventing falls from slippery surfaces.
- The cab and surfaces such as rails and steps should be kept free from dirt, grease, oil and other hazards.
- The operator must take extra precautions during foul weather that can cause slippery surfaces.

A personal fall arrest system (PFAS) is designed to protect the worker who is already in the process of a fall by stopping the fall **after** it has taken place; it does not prevent the fall. But the system only works if it used correctly. Employers and workers can use the A-B-C-D of a PFAS: Anchorage, Body support, Connection, Descent/ rescue.

Anchorages must be rated for at least 5,000 pounds or be an engineered solution. A good rule of thumb is to ask yourself if this anchorage could hold an older model Chevy truck if it fell. If not, you could be in trouble if you fell.

Body support is a harness designed to distribute the forces of a fall to help limit injuries and death. You need to make sure you wear the right size, cinch the straps tight enough to support you but not cut off blood flow, and wear it properly. The chest strap is to be worn across the nipples. Although sometimes difficult, women need to remember to not wear it under the breasts. Men need to remember to wear the leg straps correctly to prevent injury to the groin.

Various equipment is available to Connect the anchorage point and body support, dependent on the hazards and risks involved. Irrespective of the equipment, your PFAS should not allow you to fall greater than six feet.

Haul systems and tripods can be used for Descent and rescue. Trauma straps can be used to relieve the pressure gravity is exerting (suspension trauma) while you are hanging in a PFAS after a fall.

Suspension trauma, also known as orthostatic incompetence and harness hanging syndrome, can affect anyone who is immobile, specifically not using his/her leg muscles. The heart is a positive-pressure pump, meaning it does suck the blood up that gravity pulls into your legs. The only way to get blood back out of the legs is to pump it by moving your legs. Without the motion, the blood will pool in the lower body.

Blood that has pooled in the lower body will build up body wastes and CO_2, becoming stale within 10-20 minutes. If this blood is suddenly released back into the system, it floods the organs with these toxins and waste. A recovered worker should be placed in the "W" position, specifically not placing his/her in a horizonal position, for at least 30 minutes.

4. **Main Points/ Key Points Raised from Participants:**

   Participants had an opportunity to see the different types of hardware that make up a personal fall arrest system: anchors, harnesses, connectors, lanyards, trauma straps, haul systems, etc. They also had a chance to discuss how these systems have come a long way from the day of the belt system that could cause more harm than good and poor locking connectors to the ones today that have redundant systems.

   An NTF Instructor-Trainer showed attendees how to properly don and cinch a PFAS and was then suspended from a tripod. He used trauma straps and demonstrated how they work to give participants a visual example of how they help to avoid suspension trauma (orthostatic incompetence).

5. **References:**
   OSHA.gov website and Journal of Emergency Medical Services article located at http://www.jems.com/articles/print/volume-34/issue-8/patient-care/dangerous-suspension-understan.html.

6. **Workshop Handouts/ Resources:**
   PowerPoint.