The “Fall Protection for the Construction Industry” Seminar

About the seminar in India, June/July 2019

Introduction

This seminar will be presented in English.

Accidental falls continue to be the leading cause of injuries and fatalities in many industries, most especially in construction. Those who design or purchase active fall protection systems cannot rely solely on minimum requirements published in standards and regulations.

While we should always seek ways of preventing falls, the removal of the fall hazard (not doing work at height) is, on many jobs, either impossible or not economically feasible.

Passive fall protection, such as guardrails, is the next preferred solution because it is easy to recognise, easy to understand, and does not require the worker to know or do anything other than the actual work they are engaged in.

Unfortunately, passive protection is often impractical, so many fall hazards are addressed with active protection such as fall arrest and travel restraint. Active fall protection is highly complex, and experts in this field tell us that it is the most complex field of safety. It is often poorly understood by those who use it, those who provide it, and those responsible for specifying and purchasing it. Safe implementation is far beyond the hoped-for simplicity of getting workers into harnesses and tying them to secure anchorages.

Those who make decisions about how active fall protection will be implemented need to understand that available systems and equipment have widely varying capabilities, even though they may all meet the identical standard(s).

This seminar is intended to develop “Critical Thinking” to evaluate the choices that must be made about:

- what types of fall protection systems to purchase,
- the optimal equipment to be used,
- the level of training that the workers require
- the required collateral systems, including rescue

Travel Restraint Systems

The design of travel restraint systems requires expertise in preventing workers from reaching a fall hazard. To ensure a safe system, we must understand:

- How much force a user may impart to the system.
- What equipment is suitable.
- While it is reasonable to presume that any system strong enough to anchor a fall arrest is also strong enough to resist travel restraint forces, it is a mistake to presume that all fall arrest anchorage systems will safely anchor travel restraint. Although strength is a primary

consideration, it is equally important is determine how far the anchorage system deflects when resisting travel restraint impacts. Many flexible systems such as Horizontal Lifelines (HLLs) deflect too far to hold a worker who is adjacent to an edge from falling off.

Fall Arrest Systems

The design of Fall arrest systems requires expertise in the dynamics of falling masses. To verify a safe system, we must know:

- What maximum arrest force (MAF) the user may experience, to verify we meet regulatory requirements. We should also understand when regulatory requirements may or may not prevent or minimize serious injuries. It is a mistake to blindly presume that using personal energy absorbers (PEAs) will ensure that impact forces are always or below the rated deployment force of the selected equipment. We must recognize when better equipment is required.
- the Total Fall Distance (TFD) of the worker, as compared to the available clearance. Although it is obvious that that we should stop the worker from impacting a lower level, very few practitioners are able to accurately determine this. In fact, determination that there is sufficient clearance is usually neglected by those who use and even provide fall arrest systems.
- In the design of HLLs, the strength of anchorages must be capable of withstanding the maximum arrest load (MAL) that is often significantly greater than the arrest force experienced by the worker during the arrest. Engineering modeling of flexible horizontal lifelines is very complex. A computer model for analyzing HLLs will be demonstrated during the seminar, so participants have an opportunity to pose complex what-if scenarios. This will help participants better understand when HLLs should and should not be used.

The Seminar's Objective

This seminar will develop critical thinking skills to help attendees recognize unsafe practices and to know how to improve the safety of active fall protection systems through:

- The steps to develop, implement and manage a fall protection program.
- The hierarchy of preferred fall protection solutions.
- Deeper understanding how fall protection equipment and systems actually work (and when they don't work).
- Development of compliant, user friendly, economical fall protection systems.
- Proper specification for procurement of fall protection equipment and systems.

The Presenters

The President of ISSA Construction, in the spirit of international cooperation, has proposed two experts from Canada to share with their global experience in design and implementation of fall protection systems. Both Andrew C. Sulowski, P.Eng., and Greg Small, P.Eng. share between them over 80 years of continuous work in fall protection engineering. Both were instrumental in the development of several important Canadian standards in the CSA Z259 and ANSI Z359 series. Their clients include many of North America's largest organizations from all industries, including airlines, railways, automotive, energy production & distribution, mining, military and regulatory agencies. They have consulted to fall protection manufacturers and providers of engineered solutions in many industries and geographic

locations throughout the world. The have conceived and developed innovative solutions to very complex fall protection problems and hold several patents.

The Benefits

Seminar materials supplied to all participants include both electronic and printed materials covering the topics of the seminar as well as an extensive electronic library of additional reference materials on to expand on topics covered in the seminar.

The knowledge and information offered by the speakers is state-of the art, unique and cannot be obtained from any other source. We bring you the eminent world experts, and are confident seminar participants will agree that their investment to attend will pay for itself very quickly, through selection of more effective and economical fall protection solutions, that will lower the severity and frequency of fall accidents.

Participants will develop critical-thinking expertise to offer their current or future employers.

Participants Who Will Benefit the Most

This seminar should be of interest to the following industries and organizations:

- Construction
- Energy exploration, production and distribution
- Transportation
- Telecommunication
- Military
- Regulators
- Architects, designers and installers of fall protection systems who serve the above industries.

It offers valuable insights for

- Safety personnel in every industry where fall hazards exist
- Managers and supervisors responsible for workers' safety
- Fall protection equipment manufacturers
- Safety trainers
- Test engineers

Registration information will be available end of January 2019!