

January 10, 2006

OSHA Docket Office  
Docket No. S-215  
US Department of Labor  
200 Constitution Avenue NW, Room N2625  
Washington, DC 20210

RE: 29 CFR Parts 1910 and 1926, Docket Number S-215, OSHA Proposed Rule on Electric Power Generation, Transmission, and Distribution; Electrical Protective Equipment [70 FR 34822]

Dear Sir/Madam:

The International Safety Equipment Association (ISEA) represents the leading manufacturers of personal protective equipment, including fall protection systems and components, both domestically and abroad. ISEA shares the common mission with OSHA to protect the health and safety of American workers and supports the efforts of the agency to gather information on current technology and industry practices that will assist in providing such protection.

ISEA offers the following comments on some of the issues raised by OSHA in its request for comments on its proposed rule on Electric Power Generation, Transmission, and Distribution; Electrical Protective Equipment, as published in the June 15, 2005 *Federal Register*.

**Reference Section: Payment for Protective Clothing – page 34869**

ISEA supports OSHA's proposal in this rule that employers must provide at no cost to employees the personal protective equipment and clothing required to complete a job safely. Like OSHA, ISEA believes it is the employer's responsibility to properly protect employees from all hazards in the workplace. Employers are already required in OSHA's PPE standard to conduct hazard analyses to determine what PPE is necessary to protect their employees. When employers pay for PPE workplaces are safer because of the following:

- The proper PPE to protect against the particular hazard(s) in the workplace is more likely to be selected.
- The PPE is more likely to be available and in good condition.
- Employees are more likely to be properly trained in using the PPE at the worksite.

We believe OSHA should make clear that employers are required to provide, at no cost to employees, PPE needed to conduct their jobs safely.

In addition, OSHA should not treat any PPE as a tool of the trade; neither in this rule, nor in any other rule. A tool enables a worker to perform a task. PPE protects the worker while using the tool. PPE is technically sophisticated equipment. Employers are better able to select the types of PPE that are needed for the hazards at their workplace, and employers are able to conduct effective training on that PPE.

ISEA's comments to the 1999 proposed rule and the recent "Tool of the Trade" limited reopening of the PPE rule can be found in the OSHA docket.

Similarly, we believe OSHA set a precedent in the Respiratory Protection Standard at 1910.134(a)(2), which states that respirators shall be provided by the employer when such equipment is necessary to

protect the health of the employee. 1910.134 also holds that employer shall provide the respirators which are applicable and suitable for the purpose intended.

**Reference Section: 1926.951(b)(1) – page 34948**

ISEA supports the proposal to require the presence of a second employee during certain types of work on or near electric power transmission or distribution lines. Our concern for the safety of employees working alone stems from our experience in the design and manufacture of equipment for evacuation and retrieval of employees following a fall from height.

In a recent Safety and Health Information Bulletin, OSHA describes the hazard of prolonged suspension in a full body harness following a fall event. OSHA SHIB 03-24-2004 cites the hazard of orthostatic intolerance, recommending prompt rescue of suspended personnel, especially when other complicating factors may be present. A fall precipitated by exposure to an energized electrical source will require immediate rescue of the incapacitated employee and removal to a safe working level where medical aid can be administered.

We recommend that at least one additional employee be present in instances of work where fall hazards are present in conjunction with the hazard of potential exposure to electric shock. We believe employees need to be trained in evacuation and rescue techniques to affect a prompt rescue when the combined hazards of falling and energized electrical sources are present in the work environment.

**Reference Section: 1926.951(b)(3) – page 34948**

Proposed rule section 1926.951 covers medical services and first aid. This section instructs employers to comply with 29 CFR 1926.50 and adds new medical services and first aid requirements. At 29 CFR 1926.50 readers will find Appendix A, "First aid Kits (Non-Mandatory)," which tell employers and employees that "[a]n example of the minimal contents of a generic first aid kit is described in American National Standard (ANSI) Z308.1-1978 "Minimum Requirements for Industrial Unit-Type First-aid Kits". The 1978 standard no longer exists; it has been replaced by ANSI Z308.1-2003, and OSHA should update the reference.

ISEA supports the proposed language in 1926.951(b)(3) regarding maintenance, availability and inspection of first aid kits. Such language is consistent with the ISEA-administered consensus standard ANSI Z308.1-2003 *American National Standard for Workplace First Aid Kits*

**Reference Section: 1926.954(b)(2) – page 34949**

ISEA believes the proposed requirements in this section apply equally to work-positioning lanyards as to body belts.

The requirements in the referenced ASTM F887-04 also include specifications and testing of full body harnesses for fall arrest. The current draft of Part 1926 Subparts R and E does not make provision for arc-flash resistance for fall arrest PPE. We believe that workers in electric power transmission and distribution have special requirements different from those in general construction activities. These special requirements are recognized as hazards associated with exposure to high-voltage electric current. The hazard of exposure to energized electrical sources often occurs at height where personal fall arrest systems are required. The hazard of electric arc flash has been addressed in the ASTM F887-04 for full body harnesses used in fall arrest.

We support the inclusion of electric arc-flash resistance requirements, referenced in ASTM F887-04, to be extended to included fall arrest PPE, especially full body harnesses and shock absorbing lanyards that are worn together as part of a complete fall arrest system. These components would be exposed to potentially damaging thermal shock in the event of an arc flash. The damage to lanyards not designed to withstand a high-voltage arc flash can be quite severe, reducing strength to levels below the factor of

safety necessary to assure arrest of a fall. Tests have been performed by the Kinetrics high energy laboratory on high-tensile webbing, such as that used in fall protection PPE products. Testing at exposure levels of 40 cal/cm<sup>2</sup>, in accordance with the procedures in ASTM F1958/F 1958M-99, demonstrated ignition and melting of the webbing sufficient to reduce webbing strength by greater than 30 percent.

One common example of this hazard involves employees tied off in bucket trucks working in close proximity to high-voltage power lines. The fall arrest harness and lanyard are typically exposed above the edge of the bucket where contact with electric arc flash is possible. In the event of an incident, including a fall by ejection out of the bucket, the strength of fall arrest components could be severely compromised if they were exposed to a high-voltage electric arc flash.

**Reference Section: 1926.954(b)(2)(i) – page 34950**

The use of non-ferrous materials, including high-tensile aluminum with protective anodize coating, is common within the industry. The concerns over their use may be related to environmental conditions and conditions of use that may affect the strength and performance characteristics of non-ferrous and non-metallic materials. The conditions most often cited are:

- Abrasion resistance,
- Effects of exposure to ultra-violet radiation, and
- Effects of exposure to very cold temperatures.

Objective criteria for evaluating the equivalence between forged alloy steel and other materials should focus on these three measures. We recommend using the criteria established in Canadian Standard CSA Z259.12-01 section 4.2.2 and procedures in sections 5.4.1 and 5.4.2.

**Reference Section: 1926.954(b)(2)(xii) – page 34950**

ISEA supports the change to a test mass of rigid steel construction, weighing 100 kg (220 lb). Our members' experience in testing fall protection products leads us to conclude that the rigid mass will produce more repeatable results than testing with a sand-filled bag. However, we believe the 100 kg test mass should only be sufficient to qualify products for use by employees with a maximum body weight up to 140 kg (310 lb). For employees with weights greater than 140 kg (310 lb), including body weight, clothing, tools and other user-borne objects, the test should be modified to increase the test mass proportionately greater than 100 kg (220 lb). For example, for a worker with an all-up weight of 160 kg (354 lb), the test mass should be increased to 114 kg (251 lb)

We also agree that a free fall distance of 1 m (39 in) is sufficient to test the dynamic strength of the equipment.

**Reference Section: 1926.954(b)(3)(iii) – page 34950**

ISEA agrees with the proposed change to allow frontal-attachment for personal fall arrest on equipment that is used for work positioning, with a maximum permissible free fall distance of 0.6 m (2 ft).

Members of the ISEA are also represented on the ANSI Z359 Accredited Standards Committee for Fall Protection. The Z359 ACS is currently at work on a revision to the Z359.1-1992(R1999) standard that would include specifications and test criteria for use of front-mounted D-rings on full body harnesses in work positioning applications. The criteria in the proposed Z359.1 standard are consistent with the proposed language in the OSHA draft.

**Reference Section: 1926.954(b)(3)(iii) – page 34950**

ISEA concurs with the decision to set the trigger height of 1.2 m (4.0 ft) for use of fall protection for electric power transmission and distribution construction work.

The height will provide sufficient clearance for protection of workers equipped with fall protection PPE currently available in the market. This includes temporary, flexible-line climbing systems as well as positioning systems for connection to the harness front D-ring.

**Reference Section: 1926.954(b)(2)(xi)**

In this section, OSHA asks for comments about new performance criteria for snaphooks with regard to forces required to actuate the snaphook mechanism used as part of work positioning equipment, including whether snaphooks should be only of the locking type.

ISEA believes the requirements for snaphooks in this section should be consistent with the language in existing general industry and construction fall protection standards at 29 CFR 1910.66 Appendix C and 29 CFR 1926.502. Neither of these standards set forth detailed specifications for the forces required to actuate the locking and gate mechanisms of snaphooks. The determining factors that relate most closely to incidents of accidental disengagement of a snaphook from its connector are (a) the compatibility in size and shape of the connecting element, and (b) the tensile strength of the gate in the closed and locked position, which are fully discussed in 1910.66 and 1926.502. It is difficult to envision one range of force requirements that would apply equally to all locking snaphooks because of the wide variety of existing and possible snaphook designs.

OSHA should limit its regulation of self-closing and self-locking snaphooks to use in work positioning applications that follow existing fall protection regulations. The addition of further restrictive requirements will have the effect of possibly eliminating otherwise safe and efficient equipment from the marketplace without any demonstrable improvement in worker safety.

**Calibration of Detection Equipment in 1926.965**

In proposed section 1926.965, which covers confined space entry, paragraph (i) would require test instruments used to monitor atmospheres in enclosed spaces to be kept in calibration, with a minimum accuracy of 10 percent. To ensure that detection equipment is calibrated in accordance with OSHA recommendations, we urge OSHA to refer employers and employees to OSHA's Safety and Health Information Bulletin (SHIP) on Calibration. (SHIB 05-04-2004) entitled "Verification of Calibration for Direct-Reading Portable Gas Monitors."

**Other Personal Protective Equipment in Proposed 29 CFR 1926.954(a)**

Section 1926.954, personal protective equipment, begins by stating: "Personal protective equipment shall meet the requirements of Subpart E of this Part" [29 CFR 1926]. Subpart E, which covers personal protective equipment for construction, contains outdated references to American National Standards in sections 1926.96, 1926.100, and 1926.102.

First, 1926.96, which covers foot protection, makes reference to ANSI Z41.1-1967, American National Standard for Men's Safety-Toe Footwear. This standard has been withdrawn as an American National Standard, and no longer exists.

Second, the head protection portion of Subpart E, 1926.100, makes reference to ANSI Z89.1-1969 for general head protection, and ANSI Z89.2-1971 for electrical hard hats. The ANSI Z89.1 standard has been updated several times since the 1969 edition, and ANSI Z89.2 no longer exists. The current head protection standard, ANSI Z89.1-2003, includes updated minimum performance criteria for hard hats for

both general use and for performing electrical operations. Section 1926.100(b) should reference the current revision of the standard, ANSI Z89.1-2003, *American National Standard for Industrial Head Protection*. For workers exposed to high-voltage shock and burns, the reference in 1926.100(c) should be changed to ANSI Z89.1-2003 Class E.

OSHA's current standard activity on electrical power generation would be the appropriate and critical time to update 1926.100 to provide employees and employers with the best guidance for appropriate PPE for work with live wires and other energized equipment.

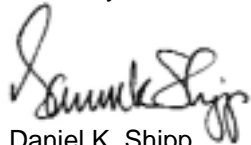
Third, the eye and face protection portion of Subpart E, 1926.102, makes reference to ANSI Z87.1-1968, *Practice for Occupational and Educational Eye and Face Protection*. The reference in 1926.102(a)(2) should be updated to the current standard, ANSI Z87.1-2003, *American National Standard for Occupational and Educational Personal Eye and Face Protection Devices*.

ISEA urges OSHA to take action on these three national consensus standard updates. The proposed standard is substantial, and employers are unable to comply with Subpart E because the national consensus standards referred to in 1926.96, 1926.100, and 1926.102 are so outdated. The three updates of national consensus standards incorporated within OSHA standards we discuss here ought to be part of the final standard. OSHA includes other standards updates in this rulemaking (related to insulating glove test methods); and standards updates are an OSHA priority.

### **Conclusion**

Thank you for your consideration. We appreciate the opportunity to provide these comments and look forward to OSHA's continued work on this regulatory activity.

Sincerely,



Daniel K. Shipp  
President