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IN FALL PROTECTION

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White Paper on Fall Arrest, Fall Restraint, and Work Positioning as it relates to Electrical Power Generation, Transmission, and Distribution for OSHA 1910.269 and OSHA 1926.954.

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In April of 2014, OSHA introduced new rules for electrical power generation, transmission, and distribution and revised OSHA 1910.269 and OSHA 1926.954. In this standard you will find a significant amount of rules dealing with lock-out tag-out, tree trimming, training, energy source control, PPE for Arc Flash and flame situations, enclosed spaces, fall arrest, fall restraint, wood-pole fall–restriction, and work positioning protection. Many questions have been raised since this rule was introduced. This paper will highlight important points about fall arrest, fall restraint, and work positioning as it relates to these new OSHA standards.

- **Personal fall arrest systems (PFAS) must meet OSHA 1926.502 standards like all other PFAS in other industries.**
  Fall arrest equipment and procedures used in electrical power industries are no different than in other industries with two exceptions. Arc flash potential work sites and overhead electric power transmission and distribution lines/ equipment have some additional rules which will be detailed later in this paper. Fall arrest equipment marked as OSHA 1926.502 compliant meets the new OSHA Electrical Generation and Distribution standards except where arc flash or flames are a possibility. *OSHA 1910.269(g)(2)(i) & 1926.954(b)(1)(i)*

- **Only when arc flash or flames are a potential hazard does fall *arrest* equipment need to be rated to pass a drop test after being exposed to a 40 ±5 cal/cm^2 arc flash.**
  Arc flash rated equipment need only be used in situations that have potential for arc flash or flames. Please note that this is fall arrest only and not work positioning nor fall restraint. *OSHA 1910.269(g)(2)(ii) & 1926.954(b)(1)(ii)*. Work positioning equipment has its own flame testing. It is understood that it may be convenient to just use arc flash rated fall protection equipment in all situation to keep equipment selection simple, but it is not required.

- **OSHA does NOT require products to be labeled as ASTM F887 to be OSHA arc flash compliant.**
  OSHA states "…shall be capable of passing a drop test equivalent to that required by paragraph (g)(2)(iii)(L) of this section after exposure to an electric arc with a heat energy of 40±5 cal/cm^2." *OSHA 1910.269(g)(2)(ii) & 1926.954(b)(1)(ii).* There is no reference to ASTM F887 in this section.

- **OSHA has it's own specific specification for work positioning belts and positioning straps and does NOT require labels to carry any ANSI or ASTM F887 compliance statements.**
  OSHA standards for body belt and positioning straps are detailed starting at *1910.269(g)(2)(iii) thru 1910.269(g)(2)(iii)(L)(6) or 1926.954(b)(2)(i) thru 1926.954(b)(2)(xii)(F)* detailing construction parameters, strength specifications, flame testing guidelines, dielectric testing, drop testing, and much more.

  Wood-pole fall restriction devices like DBI-SALA Cynch-Lok™ product line and work positioning belts like the 4D Seat-Belt are fully compliant with the OSHA 1910.269 and 1926.954. This includes (but is not limited to) the following model numbers: 1001392-1001402 4D Seat Belt™; 1001379-1001391 2D Lineman Belt; 1204057, 1204075, 1204058, 1204076 Cynch-Lok™ Fall Restriction devices, 1234070, 1234071, 1234080, 1234081 and 1234083 adjustable positioning lanyards.

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OSHA considers all body belts and positioning lanyards that "…conform to American Society of Testing and Materials Standard Specifications for Personal Climbing Equipment, ASTM F887-12^{e1}, are deemed to be in compliance.." with OSHA's own specifications. This does NOT mean that OSHA equals F887 nor does it mean that a product must be labeled as F887 compliant to meet OSHA.

- **All work positioning equipment shall be inspected before each days use just like all fall arrest equipment is to be inspected daily.**
  This inspection standard is the same with other fall arrest equipment making this rule easy to remember. *OSHA 1910.269(g)(2)(iv)(A) & 1926.954(b)(3)(i).*

- **Fall protection equipment rigged to fall arrest must meet fall arrest standards. Fall protection equipment rigged to work positioning must meet work positioning standards.**
  The required standard is dependent on how you rig your system not on the separate equipment. If using a fall arrest self-retracting lanyards (SRL) or lanyard, a full body harness is required because full body harnesses are mandatory in fall arrest. If work positioning with an adjustable positioning lanyard, your equipment follows work positioning standards. Work positioning lanyards have a specific flame test they must pass and are not required per OSHA to pass a fall arrest drop test after exposure to an electric arc of 40 ±5 cal/cm^2. Work positioning and climbing equipment like Cynch-Lok are not required to be arc flash rated. *OSHA 1910.269(g)(2)(iv)(B) & 1926.954(b)(3)(ii)*

- **All employees in aerial lifts are required to use fall restraint or fall arrest devices.**
  The decision to use fall restraint and fall arrest is based on site fall clearances. Fall arrest gives more freedom of movement for working but requires a specified amount for fall clearance when a SRL or energy absorbing lanyard is used. This rule goes into effect on April 1, 2015. NOTE: On February 18, 2015, OSHA revised the effective dates for this section. April 1, 2015 is the effective date except for employers doing line clearing tree trimming activities. No citations will be issued for lack of fall arrest/ restraint in aerial lifts until January 1, 2016 if the employer can show they are in the process of testing equipment along with a manufacturer of fall arrest/ restraint equipment. The employer must provide a body belt and lanyard in aerial lifts at a minimum. *OSHA 1910.269(g)(2)(iv)(C)(1) & 1926.954(b)(3)(iii)(A).*

- **All employees working 4 feet or higher above the ground while on poles, towers or other similar structures require personal fall arrest, restraint, or work positioning systems.**
  This applies only to overhead electric power transmission and distribution lines and equipment. This does not apply to buildings, transformers, and capacitors. All qualified employees who climb poles, towers, and similar structures must begin using fall arrest, restraint, or work positioning equipment on or before April 1, 2015. NOTE: On February 18, 2015, OSHA revised the effective dates for this section. The new effective date is June 1, 2015. All non-qualified employees who climb poles, towers, and similar structures must begin using fall arrest, restraint, or work positioning equipment when this new standard was released. *OSHA 1910.269(g)(2)(iv)(C)(2) & 1926.954(b)(3)(iii)(B).*

- **Work Positioning Systems must be rigged so that employees can free fall no more than 2 feet.**
  This rule will be enforced on April 1, 2015. There is a similar rule for other industries in fall protection in OSHA 1926.502 under work positioning. Our DBI-SALA work positioning products already meet this OSHA requirement. *OSHA 1910.269(g)(2)(iv)(D) & 1926.954(b)(3)(iv).*

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It should be noted that if work positioning products are marked as meeting ASTM F887, ASTM says that adjustable positioning lanyards "… shall meet the specifications, tests and requirements of ANSI/ASSE Z359.3-2007…" *ASTM F887-13 section 15.6.3*. OSHA does NOT require lanyards to be labeled with F887 nor any ANSI standards.

- **Anchorages for work positioning shall support at least twice the potential impact load or 3000 Lbs. force whichever is greater.**
  The electrical generation rules for work positioning anchorage points is consistent with other OSHA and ANSI work positioning requirements. This applies to the equipment and to the poles and towers structures as well as cross arms and other obstacles too.

  OSHA also notes in this section that wood-pole fall-restriction devices "…meeting American Society of Testing and Materials Standard Specifications for Personal Climbing Equipment, ASTM F887-12^{e1}, are deemed to meet the anchorage-strength requirement when they are used in accordance with manufacturers' instructions." This does NOT mean that OSHA equals F887 nor does it mean that a product must be labeled as F887 compliant to meet OSHA. DBI-SALA Cynch-Lok™ products and work positioning lanyards meet this OSHA standard. *OSHA 1910.269(g)(2)(iv)(E) & 1926.954(b)(3)(v)*

- **All the snap hook connection compatibilities used in other fall protection applications also apply to OSHA 1910.269 and 1926.954.**
  Snap hooks cannot be hooked to themselves, to webbing, to rope, to wire rope, to a D-ring in which another snap hook is already attached, to a horizontal lifeline, or to any object that is incompatibly shaped or dimension in relation to that snap hook that could accidentally disengage or cause snap hook release unless the snap hook is designed for such purpose. These are the same rules we use today in fall protection. Capital Safety uses 3,600 lb. strength gates on our current snap hooks. Capital safety allows the use of 3600 Lb. gate strength snap hooks to horizontal lifelines. Capital Safety also allows a Rebar Hook with a 3600 Lb. gate strength to be connected to a typical D-ring. Capital Safety does allow two carabineer style connectors to be attached to the same D-ring for work positioning. *OSHA 1910.269(g)(2)(iv)(F) thru 1910.269(g)(2)(iv)(F)(5) & 1926.954(b)(3)(vi) thru 1926.954(b)(3)(vi)(E).*

All comments have the specific OSHA standards listed at the end of the discussion points. The OSHA website where you can find all the standards for the Electrical Power generation and Distribution are found at:

OSHA 1910.269
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9868
OSHA 1926.954
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10825