

Qualified Person Duties to Create a Fall Protection System Meeting ANSI Z359

**J. Nigel Ellis, Ph.D., CSP, P.E., CPE
Ellis Fall Safety Solutions, LLC
Wilmington, Delaware**

This paper is for safety professionals who are organizing their Fall Protection (FP) Programs with Competent Persons and especially Qualified Persons (QP) to meet the Z359 new family of standards.

What the Fall Protection Code says regarding Anchorages and Qualified Persons

1. Qualified Person Definition: 2.109, A person with a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating and specifying fall protection systems to the extent required by this standard. This position is usually a registered structural engineer
2. Anchorage Points for Fall Arrest certified 2:1 or non-certified 5000 lbs; WP certified 2:1 or non-certified 3000 lbs; Restraint certified 2:1 or non-certified 1000 lbs; Rescue certified 5x applied load or non-certified 3000lbs. Only Qualified Persons may certify anchorage points
3. Horizontal Lifelines (HLL): anchorage point certified 2:1 lbs not in this standard but from OSHA 1926.502(d)(8) and (d)(15) until the Z359.17 Safety Requirements for Horizontal Lifelines for Personal Fall Arrest Systems is developed. Non-certified anchorages should not be used for HLL
4. System inspection and maintenance: Horizontal lifelines must be inspected by a Qualified Person per OSHA standards. The manufacturer or QP may instruct inspections by a QP or CP at least annually according to Z359.2
5. Rescue: Anchorages must sustain two persons and a dynamic load factor

What the Fall Protection Code means regarding anchorage points and training

1. Training of Qualified Persons: by a qualified person who meets the requirements of this standard and who is also qualified to provide fall protection training
2. Qualified Persons may use lower anchor strengths to achieve the purpose
3. When impractical, the competent person may supervise the selection, installation, use or inspection of non-certified anchorages
4. Recertification of anchorages must be field verified by a QP

Qualified Person Duties

1. To perform the duties of a Competent Person
2. To participate in the investigation of all reported incidents related to falls
3. Responsible for supporting the Fall Protection Program
 - a. System Design
 - b. Horizontal Lifeline design
 - c. Structural Analysis
 - d. Impact force and clearance calculations
 - e. Testing of systems
 - f. Anchorage certification
 - g. Method of hazard control
 - h. Equipment selection
 - i. Compliance with applicable regulations, standards, codes
4. Knowledgeable in the following:
 - a. Applicable FP regulations, standards
 - b. Equipment and systems
 - c. Physical sciences
 - d. Engineering principles
 - e. Mandatory requirements for FP systems by employer
5. Supervise the design, selection, installation and inspection of certified anchorages and horizontal lifelines

How the Fall Protection Code should be applied

1. Owners should specify that all contractors with elevated hazards follow Z359

2. A trained Competent Person must be on site and have approved the FP plan whenever employees are working at elevation.
3. A trained Qualified Person in FP should be on call if the Competent Person needs technical support.
4. All employees working at elevation must have as a minimum the basic Authorized Person fall protection training.
5. The Competent Person must appoint a Competent Rescuer
6. The Competent Rescuer must train Authorized Rescuers
7. Competent Persons must be trained by a Competent Person Trainer
8. Competent Rescuers must be trained by a Competent Rescuer Trainer
9. Qualified Persons must be trained by a Qualified Person Trainer
10. A Program Administrator must be appointed by management to have overall responsibility for the Fall Protection Program

Structural Engineers v. Safety Professionals anchorage differences

1. A practicing Registered Professional Structural Engineer offers his advice to session attendees and shows the results of the different paths to Certified and Non-Certified Anchorages
2. The dangers of risking safety knowledge for structural engineering knowledge about dynamic forces as opposed to static forces will be reviewed

Practicalities – how to deal with the following concerns

1. The entrenched contract engineer who signs off on welded washers and nuts for anchorage points without manufacturers' approval
2. The erection of non-engineered horizontal lines with (less than) 5000 lbs anchor points instead of 10,000 lbs or higher anchorages
3. The use of H-systems for horizontal lifelines in construction and the effect on dynamic sag
4. Forecasting where rescue anchorages should be placed and how to label them for proper use

Conclusion for the Safety Professional

1. The path forward – adding structural engineering resources within and from outside the organization. You will need them even if you do not think so currently. Understand the Z359 four key standards with more on their way
2. How to get there – speak with industry leaders, associate your fall safety operation with the lean practices of one or more of the 5 S's on standardization, and also an answer to the one or more of the seven deadly wastes using pro-active action as opposed to reactive decision-making after an incident has occurred. Your leadership will gain you respect and pay off sooner than you expected.