Qualified Person duties to create a Fall Protection System

J. Nigel Ellis Ph.D., CSP, P.E., CPE
John T. Whitty, P.E.

www.FallSafe.com
www.FallSafety.com
1.800.372.7775

ASSE Las Vegas 6 11 08

Engineering Practice Specialty
Agenda:

- Qualified Person (QP) Definition
- Anchor Point Definition
- New ANSI Z359 QP and Anchor Points
- Duties of Qualified Person
- How to Apply in your industry
The Qualified Person

- Strength of anchorages/structure
- Capable of calculating dynamic forces
- Horizontal Lifelines: one more spans multiple users
- Certified Anchorages; recertification
- Certified welders for welded connection
- Compatibility of Anchorage Connectors
Competent Person different from QP
1926.500 and Z359

- Fall Protection Plan
- Select method
- Train workers (Authorized Persons)
- Observe the work (power to stop job)
- Inspect equipment

QP in Fall Protection – the Math behind the decisions
Managed Fall Protection Program

- Program Administrator
- Competent Person
- Qualified Person
- Authorized Person
- Competent Rescuer
- Authorized Rescuer
Z359 and especially Z359.2

- This is an engineering set of standards
- Z359.2 is a Managed Fall Protection Program standard
  - Checks and balances
  - Drawings
  - Competent Persons and Qualified Persons

Competent Person cannot do the job of a Qualified Person
What the FPC means for Qualified Persons and Anchorage Points

- Design to 5000 lbs anchors w/CP
  - Selection of Non-certified Anchorages
- Design for 2:1 lower strengths w/QP
  - Selection of Certified Anchorages
  - Horizontal Lifelines
Competent v. Qualified Person

- Qualified Person does the design interface with the structure upon request
- Competent Person sees Human Factors
- Qualified Person costs the solution
- Competent Person proposes value v. cost
- Qualified Person credible Trainer

Competent Person and Qualified Person is a Team:
Some Qualified Persons can also be Field Competent Persons
All Horizontal Lifelines engineered by Qualified Person into workplace per OSHA

Torque on T or L?

One pallet remaining? Or a tarped trough to step into??
Engineer capabilities to help Safety Professionals

- Mechanical ?
- Civil ?
- Structural ✓
- Electrical X

P.E. is a Professional Engineer who has passed examinations set by the NCEES and has sufficient experience in the subject field to have a record of solving and resolving fall protection problems and may often be in an independent contractor consulting relationship.
Training by Qualified Persons

- Credibility – the Fall Protection Triangle
- Reasons supported by numbers
- The cost of Fall Protection – integrity
- Technical safety:
  - Clearances
  - Roll-out/Burst-out
  - Compatibility
  - Anchorage strength & Location
Introducing John Whitty P.E. Structural Engineer

- Worked with John for over 15 years
- John is here to show what may be missed if a structural engineer is missing and what may increase a Safety Professional’s liability.
- With this Teamwork, a Safety Professional’s liability for recommendations can be reduced
- He will provide some case histories and present you with some surprises that may be helpful in your fall protection safety career
John’s slides
Rescue Anchor Points

- Where are likely rescue points where anchors may be needed
- Training at such anchor points by Rescue Crew
- Two persons on an anchor 620 lbs static loading
- Examples 2

Start with Inventory of all Certified and Non-Certified Anchor Points, then address Rescue Anchor Points
How to Apply the FPC at your site

- What is the hazard(s):
  - Falling off or over
  - Equipment failure
  - Material falling on worker
  - Confined Space
Fall statistics show that deaths are still on the rise

What strength should a hole cover be for a 3ftx3ft roof opening?

What strength can an anchor point be for a residential roof; 5000 lbs? Yes

What should you do to build an alliance with a structural engineer?

Find a Qualified Person
Summary continued:

- Use of nuts for anchorages?
- If it looks wrong it probably is
- Fall Protection is an Engineering Science
- Fall Protection is the study of dynamics and body forces
- Fall Protection is best after predicting human movement & learning work habits

Together you as Competent Person and your Qualified Person can build protection that is effective and provable.
Why do Fall Deaths rise annually in USA?

- Failure to **plan ahead incl. anchorages**
- Sudden changes in work method
- Lack of proper equipment
- No **certified** (or non-certified) anchorage
- Communication barriers (language)
- Lack of GC oversight
- Failure to **properly engineer** fall system

Qualified Person who is a Structural Engineer is usually absent
Consider a sub has a P.E. who …

- Stamps use of standard nuts as anchor points for ¾” dia. perimeter cables and horizontal lifelines; no labels:

  OR??

Standard 1” threaded hex-head nut welded two sides

Non-threaded, welded three sides
Use of Welded Nuts as Anchors

Problem: sub engineer has stamped these two designs. You think that’s wrong. What do you do?
Horizontal Lifeline or extended railing perimeter? Labels?

Label Design needed: ANSI Z535?
Questions

Additional Information on these subjects can be found on www.FallSafety.com
Recognition of a hazard

- Would it injure you slightly?
- Can it hurt you badly?
- Can it kill you?
- Can it damage equipment?
- Is there a worse competing hazard? e.g. electrical
- Will solution hurt production?
- Will cost be prohibitive?
- Will downtime to fix it be unacceptable?
- Does keeping the hazard match what’s in the field
- Was the incident 1 in a million (freak accident)

Role of Competent Person
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<th>2 Guard</th>
<th>3 Safety Factor</th>
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*Natural* is Gravity, Water, Weather etc.
Construction Design Safety in the Marketplace Financial Impact (5/08):
Dave MacCollum

www.HazardInfo.com

Studies
Detect Hazards – Decision to Remediate (Code or no-Code)

- After a fall incident
- Before a fall
- Upon request by one exposed person
- Upon suggestion by one safety person
- After repeated suggestion many times
- Complaint once
- Repeated Complaint
- Site condition: hazards everywhere or not
- Condition or age of workers or guests
Possible Solutions

- Eliminate
- Prevent/Guard – semi-permanent
- Restraint/Guard – observe and maintain
- Designed Arrest System/Guard – watch closely
- Increase Capacity/Strength
- Two overlapping protections
- Reduce failure chances from uses

Capability to detect hazard and take a stand
Implement a Solution

- Value: Cost, Justification, Practicality/Utility
- Safety: Design, Engineering, Haz'd Prev’n
- Knowledge: Technology, Inform’n, Mgmt
- Benefits: Of the People, For the People, By the People

Commitment
Labeling to address HLL?