



# NECA SAFETY PROFESSIONALS CONFERENCE 2018

presented by  **WESTEX**  
*by Milken*



NECA  
SAFETY PROFESSIONALS  
CONFERENCE 2018

## *How EM385.1 Interfaces with OSHA*

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## Objectives

- Introduction – EM385 vs. OSHA Regulations
- Section 1 – Key Points for Administration Section
- Section 21 – EM385 & OSHA Fall Protection Differences
- Section 24 – Ladders – Stairs - Differences



## EM 385.1-2014 vs. OSHA Regulations

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|--|--|
| <ul style="list-style-type: none"> <li>• <b>Program Management</b> <ul style="list-style-type: none"> <li>• PMP – Prog. Management Plan           <ul style="list-style-type: none"> <li>• Required</li> </ul> </li> </ul> </li> <li>• <b>Contractor Requirements</b> <ul style="list-style-type: none"> <li>• APP – Accident Prevention Plan</li> <li>• Must be approved by GDA</li> <li>• <i>Appendix A</i> – are your guidelines           <ul style="list-style-type: none"> <li>• Checklist in Back of App A</li> <li>• Some sites have electronic ver.</li> </ul> </li> <li>• (Contractor) QC Person to track SOH inspections in a daily log.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <b>No Mandatory S&amp;H Program</b> <ul style="list-style-type: none"> <li>• Some regulations require a plan           <ul style="list-style-type: none"> <li>• i.e. - EAP, HazCom, CS, etc.</li> </ul> </li> <li>• I2P2</li> <li>• VPP Program</li> <li>• National Emphasis Program</li> <li>• 10s &amp; 30 hr. OSHA 1926 &amp; 1910           <ul style="list-style-type: none"> <li>• Managing Safety &amp; Health Training</li> </ul> </li> <li>• Regional Outreach Training Centers</li> <li>• Various classes offered for OSHA training classes.</li> </ul> </li> </ul> |
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## EM 385.1-2014 vs. OSHA Regulations

- **Contractor Requirements:**

- 01.A.12 – Accident Prevention Plan (APP) Contract Work
- Shall be developed and submitted by contractor
- Address element/sub-elements in outline Appendix A.
- Shall ID each major phase of work to be performed
- Written in English by Prime Contractor
- High-Hazard projects coordinated w/ local SOH.
- APP developed & signed by Qualified Person.



## EM 385.1-2014 vs. OSHA Regulations

- **Contractor Requirements:**

- Tracking system evaluates the effectiveness of APP
- Monthly meetings on projects

- **01.A.13 – Inspections**

- “The USACE Project personnel shall immediately notify the local SOHO of any OSHA or other regulatory inspection. The Project shall provide the local SOHO with a copy of any citations or reports issued by the inspector and any corrective action responses to the citations or reports...”
- “...local SOHO shall immediately provided this documentation on to HQUSACE-SO.



# EM 385.1-2014 vs. OSHA Regulations

• **Contractor Risk Management Plan-RMP:**

- Competent & Qualified Persons
  - Names are required
  - Names & Qualifications shall be submitted to the Activity Hazard Analysis (AHA)

• **No Mandatory S&H Prog.**

• **Next Slide – Example**

• **01.A.17 – Contractor Site Safety & Health Officer – SSHO:**

- Employ minimum one CP at each project to function as the SSHO.
- Be full time, an employee not supervisor, report to senior project official.



EM 385-1-1  
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FIGURE 1-2  
Activity Hazard Analysis (AHA)

Activity/Work Task:	Overall Risk Assessment Code (RAC) (Use highest code)					
Project Location:	Risk Assessment Code (RAC) Matrix					
Contract Number:	Severity	Probability				
Date Prepared: _/_/____		Frequent	Likely	Occasional	Seldom	Unlikely
Prepared by (Name/Title):	Catastrophic	E	E	H	H	M
Reviewed by (Name/Title):	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
Notes: (Field Notes, Review Comments, etc.)	Negligible	M	L	L	L	L
	Step 1: Review each "Hazard" with identified safety "Controls". Determine RAC (See above)					
	Probability: likelihood the activity will cause a Mishap (near miss, incident or accident). Identify as Frequent, Likely, Occasional, Seldom or Unlikely.					
	Severity: the outcome if a mishap occurred. Identify as Catastrophic, Critical, Marginal, or Negligible					
Step 2: Identify the RAC (probability vs. severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.						
		RAC Chart				
		E = Extremely High Risk				
		H = High Risk				
		M = Moderate Risk				
		L = Low Risk				
Job Steps	Hazards	Controls			RAC	
1.	1.	1.			1.	
2.	2.	2.			2.	
Equipment to be Used	Training Requirements & Competent or Qualified Personnel name(s)	Inspection Requirements				

## EM 385.1-2014 vs. OSHA Regulations

### • Other Key SOHO Notes:

- 30 hr. OSHA G.I. or Construction safety class
- 5 years of continuous construction or General Industry safety experience
- Third party certification? - then only 4 years experience needed
- Many other requirements listed I do not have time to review.
- These are only KEY POINTS - Please review Section 1 on your own.

### • No Mandatory S&H Prog.



## EM 385.1-2014 vs. OSHA Regulations

### • Section 21 - Fall Protection

- Only the highlights or differences are covered in this program.
- Threshold is 6 ft. unless 21.A.01.a
- USACE owned/operated permanent facilities with open sided floors, platforms or unprotected edges 4 ft. or more above the adjacent floor or ground level. See Section 24.A.01.d.
- *\*Subject to change at districts - Ask*

### • 29 CFR 1926.500-503

- Subpart M
- 29 CFR 1910.21-30
  - Subpart D - WWS
- 29 CFR 1910.140
  - Subpart I – PPE
  - 1926 = 6 ft.
  - 1910 = 4 ft.



## EM 385.1-2014 vs. OSHA Regulations

- **Terminology - Competent Person**
  - **21.B.03** CP is responsible for the immediate supervision, implementation and monitoring of the Fall Protection Program.
  - **The CP shall:**
    - a. Be trained to the applicable level, as described in Section 21.C - **(is end user training requirements);**
  - **Next Slide OSHA Training Requirements**
- **29CFR 1926.32(d)**
  - **(f) Competent person** means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.



## Training as defined in 1926.503(a)(2)

- 2) The employer shall assure that each employee has been trained, as necessary, by a competent person qualified in the following areas:
  - (i) The **nature of fall hazards** in the work area;
  - (ii) The correct procedures for **erecting, maintaining, disassembling, and inspecting the fall protection systems** to be used;
  - (iii) The **use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones**, and other protection to be used;



## Training as defined in 1926.503(a)(2)

- (iv) The role of **each employee in the safety monitoring system** when this system is used;
- (v) The **limitations on the use of mechanical equipment** during the performance of **roofing work on low sloped roofs**;
- (vi) The correct **procedures for the handling and storage of equipment** and materials and the erection of overhead protection;
- (vii) The role of **employees in fall protection plans**; and
- (viii) The standards contained in this subpart.



## EM 385.1-2014

- **Competent Person – 21.B.03**
- **b. Conduct a fall hazard survey** to identify all fall hazards before End Users are exposed to those hazards;
- **c.** Identify, evaluate and impose limits on the workplace activities to **control fall hazard exposures and swing falls and communicate** all limitations to all employees authorized to utilize the fall protection system;
- **d.** Have the **authority to stop the work immediately** if it is determined to be unsafe and take prompt corrective measures to mitigate fall hazards;
- **e. Prepare, update, review and approve fall protection and prevention plans** as directed by the Program Manager.
- **f. Review procedures as workplace activities** change to determine if additional practices, procedures or training need to be implemented;



## EM 385.1-2014

- **Competent Person – 21.B.03**
- **g.** Ensure a *rescue plan has been developed* for all activities;
- **h.** *Specify in the fall protection and prevention plan, the fall protection systems, anchorage locations, connecting means, body supports* and other equipment that End Users are required to use when exposed to a fall hazard;
- **i.** Supervise the selection, installation, use and inspection of *non-certified anchorages*;
- **j.** Verify *End Users* who work at heights are *trained and authorized* to do so;
- **k.** *Review, periodically and as needed, fall protection and prevention plan/rescue plan and procedures*, to insure the End User is adequately informed about the fall protection and prevention plan/rescue plan and procedures for workplace activities;



## EM 385.1-2014

- **Competent Person – 21.B.03**
- **l.** Ensure *prompt rescue of End Users* can be accomplished via the rescue plan and procedures to be used;
- **m.** Participate in *investigation of all mishaps* related to falls from heights;
- **n.** Ensure all *damaged or deployed fall protection equipment, is removed* from service immediately;
- **o.** *Inspect all fall protection equipment* at the frequency required by the manufacturer.





## EM 385.1-2014

## vs. OSHA Regulations

- **Definition - Competent Person**
  - General Industry

- **29 CFR 1910.140(b)** - a person who is capable of identifying existing & predictable hazards in any personal fall protection system or any component of it, as well as in their application & uses with related equipment, & who has authorization to take prompt, corrective action to eliminate the identified hazards.



## EM 385.1-2014

## vs. OSHA Regulations

- **Hierarchy of Controls:**
  - Elimination
  - Prevention
  - Work Platforms
  - PPE & Equipment
  - Administrative Controls

- **OSHA Hierarchy of Controls:**
  - Elimination
  - Administrative Controls
  - PPE



## EM 385.1-2014 vs. OSHA Regulations

- **21.A.05** - During construction activities, fall protection is required for employees exposed to fall hazards while conducting inspection, investigation or assessment work.
- **Inspector:**
  - First up / Last down – Higher Risk



## EM 385.1-2014 vs. OSHA Regulations

- **21.A.08** - During maintenance evolutions (i.e., inspecting or maintaining HVAC or other equipment on roofs), fall protection is required when conducting inspection and investigation work.
- HVAC Work:
  - LOI – 15 ft. from edge
  - Designated Area





## EM 385.1-2014

## vs. OSHA Regulations

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|--|---|
| <ul style="list-style-type: none"> <li>• <b>21.B – Roles &amp; Responsibilities</b></li> <li>• Specific Requirements               <ul style="list-style-type: none"> <li>• FP Program Manager</li> <li>• Qualified Person for FP</li> <li>• Competent Person</li> <li>• End User</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• OSHA – None Listed</li> <li>• Authorized User – GI</li> <li>• CP &amp; QP – uses OSHA definitions</li> </ul> |
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## EM 385.1-2014 vs. OSHA Regulations

- **21.C - Training:**

Specific training requirements for each type or name of worker.

Follows Z359.2 & Z490.2

Training requirements for:

Program Manager, QP, CP, End User,  
Authorized & Competent Rescuers as well  
as any associated FP trainers.

- **OSHA Training Requirements:**

- 1926.503(c)(1-2-3);

- Changes in workplace
- Changes in type of FP system
- Inadequacies in affected employee's knowledge or use of FP system...



## EM 385.1-2014 vs. OSHA Regulations

- **21.C - Training:**

- 18 months from effective date of manual – minimum 24 hrs. w/classroom & practical application
- All training documented
- Retraining – 2 hrs. annually
- Follows OSHA requirement for refresher training.

- No time amount specified by OSHA
- ANSI does every two years for all positions
- OSHA no time specified except OSHA Case Law says every three years.



## EM 385.1-2014 vs. OSHA Regulations

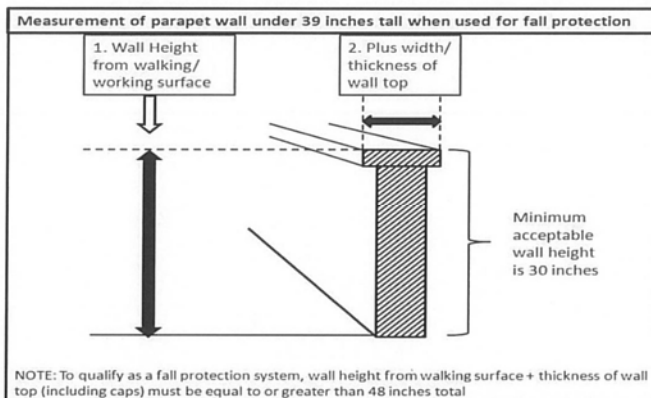
- **Fall Protection Systems:**
- The same except:
- Commercial-off-the-shelf engineered guardrailed system may be used instead of constructing a system...
- No mention of commercial –off-the shelf systems.



## EM 385.1-2014 vs. OSHA Regulations

- **21.F.05 – Existing Parapet Walls:**
- Depends on OSHA Office – State of Oregon – state law.

Existing Parapet Wall Used as a Fall Protection System



Any combination of 30 in (76 cm) or more in height plus width that equals 48 in (1.2 m) or more is acceptable.



## EM 385.1-2014 vs. OSHA Regulations

- **21.H.03 – Safety Nets:**
- C. QP can demonstrate in writing that it is unreasonable to perform the drop test the QP shall certify in writing that the net and installation (including anchorages) is in compliance with all...
- OSHA has no exemption for the drop test.



## EM 385.1-2014 vs. OSHA Regulations

- **21.I - PFPS:**
  - Restraint
  - Positioning
  - Fall Arrest
- 130 – 310 lbs. – same
- 1800 lbs. – max. force
- 6 ft. FFD
- Body belts are prohibited
- 1926 – No restraint verbiage except LOI in construction
- 1910 – Yes for G.I.
- Restraint & Body belts for restraint and positioning only



## EM 385.1-2014 vs. OSHA Regulations

- **21.I.06 – FBH** – only FBH meeting the requirements of ANSI Z359 are acceptable.
- FBH labeled to meet the requirements of ANSIA10.14 shall not be used
- Suspension Trauma preventers are required.
- 1926 – no ANSI
- 1910 – preamble used ANSI as a reference.
- Not mentioned in OSHA – 4 pages on website for Orthostatic Intolerance



## EM 385.1-2014 vs. OSHA Regulations

- **Connecting Means:**
  - Spells out 4 ft. Decel. Distance
  - All energy absorbers must be equipped w/deployment indicator
  - 3600 lb. Gates Required
    - References ANSI Z359.12
  - SRD references ANSI Z359.14
    - Spells out 2 ft. lockup
    - AAF – 1350 lbs.
    - Max. Peak Force – 1800 lbs.
- **Lanyards & Self-Retracting Lifelines-Lanyards:**
  - 1926 - 3 ½ ft. Decel. Distance
  - 1910 - 4 ft. Decel Distance
  - Not spelled out in OSHA
  - 1926 – Gates 220 Face – 350 Side
  - 1910 – 3600 lb. Gates
  - Does Not Reference except 1800 lbs.
  - 2 ft. lockup
  - Min. Tensile Load 3000 lbs.



## EM 385.1-2014 vs. OSHA Regulations

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| <ul style="list-style-type: none"> <li>• SRDs Visual Indicator Deployed</li> <li>• Local HLLs must be designed by a registered professional engineer who is qualified in designing HLL systems</li> <li>• Restraint Systems</li> <li>• Ladder Climbing Devices – LCD             <ul style="list-style-type: none"> <li>• Over 20 ft.</li> <li>• 100% transition</li> <li>• No LCDs on ladders w 1 ¾ “ rungs</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Not Called Out</li> <li>• Not Specified</li> <br/> <li>• 1910 – Travel Restraint</li> <li>• 1926 &amp; 1910 – Now 24 ft.</li> <br/> <li>• Not Called Out</li> </ul> |
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## EM 385.1-2014 vs. OSHA Regulations

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| <ul style="list-style-type: none"> <li>• <b>21.K.04 - Self Propelled EWP</b> <ul style="list-style-type: none"> <li>• <i>Scissor Lift</i> shall have AP</li> <li>• Restraint System as well as guardrails</li> <li>• EAL shall be sufficiently short</li> <li>• SRD prohibited unless permitted by the SRD manufacturer</li> </ul> </li> <li>• <b><i>Aerial Work Platforms</i></b> <ul style="list-style-type: none"> <li>• EAL acceptable</li> <li>• SRDs are not</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <b>Do Not have To Be Connected in Scissor Lift</b></li> <br/> <li>• <b>SRDs – OK</b></li> <li>• <b>EAL – LOI – 18 ½ ft. and below NO</b></li> </ul> |
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## EM 385.1-2014 vs. OSHA Regulations

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| <ul style="list-style-type: none"> <li>• <b>21.K.06</b> – Manually Propelled EWP – (See Mobile Scaffold)             <ul style="list-style-type: none"> <li>• EAL acceptable</li> <li>• SRDs are not acceptable</li> <li>• No workers on when moved</li> </ul> </li> <li>• <b>21.L.06</b> – <b>Roofing Work</b> <ul style="list-style-type: none"> <li>• Spells out 4:12 pitch</li> <li>• Mechanical equipment 15 ft.</li> </ul> </li> <li>• No Safety Monitoring System</li> </ul> | <ul style="list-style-type: none"> <li>• Same as above with EAL</li> <li>• SRLs are acceptable</li> <li>• Low Slope vs. Steep Slope</li> <li>• 1926 – LOI</li> <li>• 1910 – 10 ft.</li> <li>• Designated Area section roof work only</li> <li>• Allowed under the right conditions</li> </ul> |
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## EM 385.1-2014 vs. OSHA Regulations

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| <ul style="list-style-type: none"> <li>• <b>21.N - Rescue Plan &amp; Procedures</b> <ul style="list-style-type: none"> <li>• ANSI Z359.2</li> <li>• Time Required</li> <li>• Rescue Equipment meets                 <ul style="list-style-type: none"> <li>• ANSI 359.4 &amp; Z359.14</li> </ul> </li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• 29 CFR 1926.502(d)(20)</li> <li>• 29 CFR 1910.140(c)(21)</li> </ul> |
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## EM 385.1-2014 vs. OSHA Regulations

- **Section 24 – Ladders**
- **Safe Access - 24.B.02**

Ladderway floor opening or platform shall be guarded by a standard railing w / toe-board, on all exposed sides (except at entrance to opening). The passage through the railing shall be provided with either a guardrail or shall be offset so that a person cannot walk directly into the opening. Swing gates are preferred over chain gates.

- 29 CFR 1926.1053 – Subpart X
- 29 CFR 1910.23
- Side bars, Step through, Side rails



## EM 385.1-2014 vs. OSHA Regulations

- **24.B.12 Use of Ladders**
  - A. Three points-of-contact

- Portable Ladders do not require fall protection

- Modifications to manufactured ladders in order to adapt the ladder to specific or special use shall only be performed using a designed approved by a RPE...

- 1926 – Face the ladder
- 1910.23(b)(12) Each employee uses at least one hand to grasp ladder...

- Not Stated

- Not Stated



## EM 385.1-2014 vs. OSHA Regulations

- **24.D.05** – States hatchway & chute floor opening will be guarded by a hinged floor
- **24.D.08.a** – “roofing material such as roofing membrane, insulation or felts, covering or partly covering openings or holes, shall be immediately cut out”.
- “Cover” Requirements
- Not Stated



## EM 385.1-2014 vs. OSHA Regulations

### • **24.H.01 Climbing Equipment**

#### Ropes:

- Working line and safety line, synthetic fiber with a breaking strength of 5400 lbs. (24kN) when new
- Carabiners & Snaphooks – 3600 lbs.
- Pulleys – Ropes – Sleeves – Rope Blocks – Brakes – Climbing PPE
- 1926 & 1910 – 5000 lbs.
- 1926 not stated - 1910 – 3600 lbs.
- Non Stated



## EM 385.1-2014 vs. OSHA Regulations

- **24.H.02 General Practices**

- Safety, Secondary, Belay or Back-up Line(s) requirements called out here. *Rope Access Requirements*
- Non Stated
- Rope Access Work
  - All new section for the 2014 edition of EM385
  - 1926 – non stated
  - A lot of material here:
    - Climbers PPE
    - Climbers Saddle
  - 1910.140.27 – Rope Descent System – RDS



**Q & A – Questions?**  
**Thank You for Attending and Listening**

