

WEDA – Safety Update USACE High Hazard Working Groups

South Atlantic Division

October 2012



US Army Corps of Engineers
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Objectives

- Provide an overview of High Hazard Accident Trends the last 3 Years
- Discuss status of the 5 High Hazard Working Groups
- DRAFT ... Re-write of EM 385-1-1 is ongoing. Have you reviewed / commented on the EM?



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Background - FY 10, FY11 Accident Trends

- Accidents going up, trends identifiable
- Government Property Damage
 - 6 Jan-11 Government-owned/operated Link-belt HTC-8670LB (F2) 70 Ton hydraulic truck crane tipped off the bridge deck and toppled into reservoir below. Crane operator was able to escape. Property damage: \$800K



Boards of Investigations

- Contractor Permanent Disability – 6
 - Employee got hand caught in rigging (sling) and amputated part of the 2-4th fingers on the left hand.
 - Contract diver, injured finger on project. Required amputation of part of finger.
 - Attempting to fix cement mixer, employee removed guard from gears and attempted to engage the gears by hand when the gears advanced pulling his hand into the gears. Three fingers (index, middle and ring) were severed when his hand got caught between the gears.
 - Dredge employee got foot/lower leg caught in crush point on M/V; crushed foot/leg resulted in amputation below knee.



Boards of Investigations

- Contractor Fatalities - 3
 - 20-Dec-10/Sub-contractor employee Derigging A 5300 Lb UPS Battery Rack From Pallet. Unit Became Unstable, Tipped And Crushed Employee.
 - 24-Nov-10/(2nd tier sub) Employee receiving batch of mortar on 4th floor on hydraulic scaffold. worker opened gate and adjacent guardrail and fell to ground. fall protection was connected to guardrail section that fell.



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High Hazard Working Groups Developed

- To address incident and accident statistics that have been occurring throughout the USACE
- What is “High Hazard” area?
 - ▶ One in which an incident/accident typically results in fatality, permanent partial disability OR high property damage



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High Hazard Working Groups

- Formed 5 High Hazard working groups (HHWGs)
 - ▶ Cranes/Hoists/Rigging (Crane/Rigging WG)
 - ▶ Fall Protection (FP WG)
 - ▶ Control of Hazardous Energy (HEC WG)
 - ▶ Arc Flash (AF WG)
 - ▶ Underwater Diving (Dive WG)



How will these WG's help?

- ▶ Multi-disciplinary teams of volunteer SME's representing our mission areas (CD, Ops, Safety, RE, Marine Design, Milcon, CW construction, etc)
- ▶ Will represent geographical diversity of missions
- ▶ Will serve as SME's on BOI's (mandatory) & other investigations as requested
- ▶ Will provide trained SMEs at current, cutting edge levels
- ▶ Will research, develop, maintain appropriate regulations/guidance docs (EM 385, ER's, EP's, ANSI/ASME input, OSHA & NIOSH input, etc)



How will these WG's help?

- ▶ Will serve to answer questions, clarifications and interpretations from anyone
- ▶ Will provide programmatic tools for each area
- ▶ Will perform audits/program reviews to determine consistency, deficiencies, lessons learned, and management practices
- ▶ Will identify training needs: then find it or develop and provide it
- ▶ Will collect and analyze incident/accident data



How will these WG's help?

- ▶ Will encourage more “incident” or “near miss” reporting so that we can follow trending and find areas of concern before they spike
- ▶ Will develop Leading Metrics that can be used to better our knowledge, skills
- ▶ Will develop/provide TOOLS – to test with, to train with, newsletters, interps and clarifications and FAQ's and post on internet, audit tools, programmatic templates
- ▶ Will provide speakers at conferences, training, meetings to “spread the news”





Status of the WG's

- ▶ Crane/Rigging WG – fully engaged
 - Formed / Initial WG meeting - July 2010
 - Following OSHA changes and providing interpretations
 - Reviewed and updated EM 385, Sections 15 and 16 with:
 - Change 5 (24 Mar 11),
 - Change 6 (by 1 Apr 11),
 - Change 7 (13 Jul 12)
 - Monitoring and speaking at the Prospect Crane Safety Course
 - Members on ASME committees



Status of the WG's

- ▶ Crane/Rigging WG – fully engaged
 - Publishing “**Counterweight**” – quarterly publication
 - Provided SME's on 5 different BOI's already
 - Developed/providing RIGGER/SIGNALPERSON training for USACE workers
 - Provide numerous answers/interps/clarifications
 - Provided speaker at 9 conferences
 - Performed crane/rigging program audits of 3 different high visibility, problematic contractor work sites





COUNTERWEIGHT...

JULY 2012
ISSUE 6



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INSIDE THIS EDITION	OPORD 2011-82 - UPDATE	DIRECTOR TO PROVIDE AN IMMEDIATE RESPONSE TO THE CRANE WG. WE RECOGNIZE THE BURDEN ON OUR PART WITH PROVIDING YOU WITH THIS INFORMATION, WE ASK FOR YOUR FLEXIBILITY AND PLEASE ATTEMPT TO BE REACTIVE AND RESPOND TO OUR REQUESTS.
UPDATE TO OPORD	1. In November 2011, a USACE-wide OPORD was issued. The purpose of the OPORD was to provide the requirements and instructions for use across the Agency from new releases or bring USACE crane program implementation into compliance.	<ul style="list-style-type: none"> ✓ Update your data for Crane Operators, Riggers, and Signal Persons. The Inspector on each each in December must have been retrained local ✓ If you have your eyes focused on an In-house Train-the-Trainer program, please contact the Crane WG for assistance. ✓ The Crane WG recently met to discuss the "Road Ahead" with respects to identifying and qualifying in-house trainers. The process identified looks like this: <ul style="list-style-type: none"> 1. A brief resume outlining your qualifications demonstrating experience. 2. Copies of current proof of training for Train The Trainer in the following areas you are requesting approval for instructing: <ul style="list-style-type: none"> • Overhead Cranes (will include training in Crane II type cranes and hoists as applicable). • Mobile Cranes (will include Floating/Offshore/Truck cranes as applicable). • Rigger • Signal Person
CHANGE 7	2. The intent of the OPORD was, through the use of the USACE Crane/Rigger/Signal Person surveys, MDC's, District Commands, and managers would evaluate their organizations' strengths and take necessary corrective actions to improve performance, safety and proficiency. The steps taken ensure compliance with the 2011-82 and other regulatory requirements.	<ul style="list-style-type: none"> ✓ In order to ensure training of USACE personnel is consistent and effective the USACE high regard training Group review and approve the qualifications for all candidates. To be considered, please submit the following information for review to the Crane WG's Request Training Group: <ul style="list-style-type: none"> 1. A brief resume outlining your qualifications demonstrating experience. 2. Copies of current proof of training for Train The Trainer in the following areas you are requesting approval for instructing: <ul style="list-style-type: none"> • Overhead Cranes (will include training in Crane II type cranes and hoists as applicable). • Mobile Cranes (will include Floating/Offshore/Truck cranes as applicable). • Rigger • Signal Person
EM 385-1-1 REWRITE	3. Major machines associated with the OPORD were identified. They were: <ul style="list-style-type: none"> ✓ Immediate - Continued immediate reporting of any open rigging or hoist/hoisting equipment related incident or accident. ✓ NLT 29 Dec 11 - Submit Crane/Rigger/Rigging Action Plan. Consolidate and validate the data submitted. Plan when will include: <ul style="list-style-type: none"> 1) Communication Plan detailing the process and responsibilities for reporting, reviewing, validating and approving the information. 2) USACE Crane and Hoist Operator Qualifications status for all operators of Cranes / Hoisting equipment (USACE records) 	<ul style="list-style-type: none"> ✓ Upon approval of your request to the Crane Working Group, the designee will forward to the Working Group within 20 days a copy of your OIG appointment letter signed by your Commander. ✓ The status of the Working Group will be updated. However, indicate instructors who can teach the requirements of EM 385-1-1, Sections 24 and 28 based on the requirements of the 2011-82 and 4450 standards and then administer practical examinations on YOUR equipment. ✓ The Working Group has established the training curriculum that the instructors WILL use as part of our In-house Program. Once identified and approved, training will be sent out to the appropriate District/Division for use by these trainers. ✓ A Management Order (MOC) will be forthcoming (Summer 2012) where you will be asked to update your status with respects to the digital in-house events in the OPORD.
CRANE/RIGGING INFORMATION	4. Major machines associated with the OPORD were identified. They were: <ul style="list-style-type: none"> ✓ NLT 9 Jan 12 - Submit a written action plan that will address the requirement of program deficiencies to include: <ul style="list-style-type: none"> 1) Equipment Inventory 2) Training Plan 3) Inspection Plan ✓ NLT 28 Feb 12 - Enter equipment inventory and inspection data into the Crane/Rigger/Signal Person (CRS) in order to track data efficiently across USACE. 	<ul style="list-style-type: none"> ✓ Thank you for your efforts and commitment to improving the USACE Crane and Rigging program.
SHAREPOINT SITE	5. By 1st March, all MDC's met the suspense dates. Once the data was gathered, the Crane Working Group met and reviewed the data, creating a document to identify our findings, our questions, and our need for additional information. It has been asked to compile this information, however as of this publication, all MDC's should have received an update on their status. Upon receipt of this information, ask that you and together your District Command team, as identified in your communication plan, and assess our review and findings. Please consider the following as you review the data and provide information to Ellen Stewart and I to ensure your data is accurate: <ul style="list-style-type: none"> ✓ Major Action-If a No-CASE, the information requires the 	
TRAINING NEWS	6. Major machines associated with the OPORD were identified. They were: <ul style="list-style-type: none"> ✓ Immediate - Continued immediate reporting of any open rigging or hoist/hoisting equipment related incident or accident. ✓ NLT 29 Dec 11 - Submit Crane/Rigger/Rigging Action Plan. Consolidate and validate the data submitted. Plan when will include: <ul style="list-style-type: none"> 1) Communication Plan detailing the process and responsibilities for reporting, reviewing, validating and approving the information. 2) USACE Crane and Hoist Operator Qualifications status for all operators of Cranes / Hoisting equipment (USACE records) 	
UPCOMING WEBINARS	7. Major machines associated with the OPORD were identified. They were: <ul style="list-style-type: none"> ✓ Immediate - Continued immediate reporting of any open rigging or hoist/hoisting equipment related incident or accident. ✓ NLT 29 Dec 11 - Submit Crane/Rigger/Rigging Action Plan. Consolidate and validate the data submitted. Plan when will include: <ul style="list-style-type: none"> 1) Communication Plan detailing the process and responsibilities for reporting, reviewing, validating and approving the information. 2) USACE Crane and Hoist Operator Qualifications status for all operators of Cranes / Hoisting equipment (USACE records) 	

Have a safe summer!





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Status of the WG's

- ▶ Fall Protection WG – functional by 1 May 11
 - Provided FP Survey (every USACE facility is mandated to have a FP assessment/survey) at Chief Joe Dam and Powerhouse and Chittenden Lock & Dam in Seattle district
 - Following OSHA changes and providing interpretations
 - Reviewed and updated EM 385, Sections 21, 22 and others for FP requirements (published Change #2 in Oct 2010)
 - Now working 2013 EM 385-1-1



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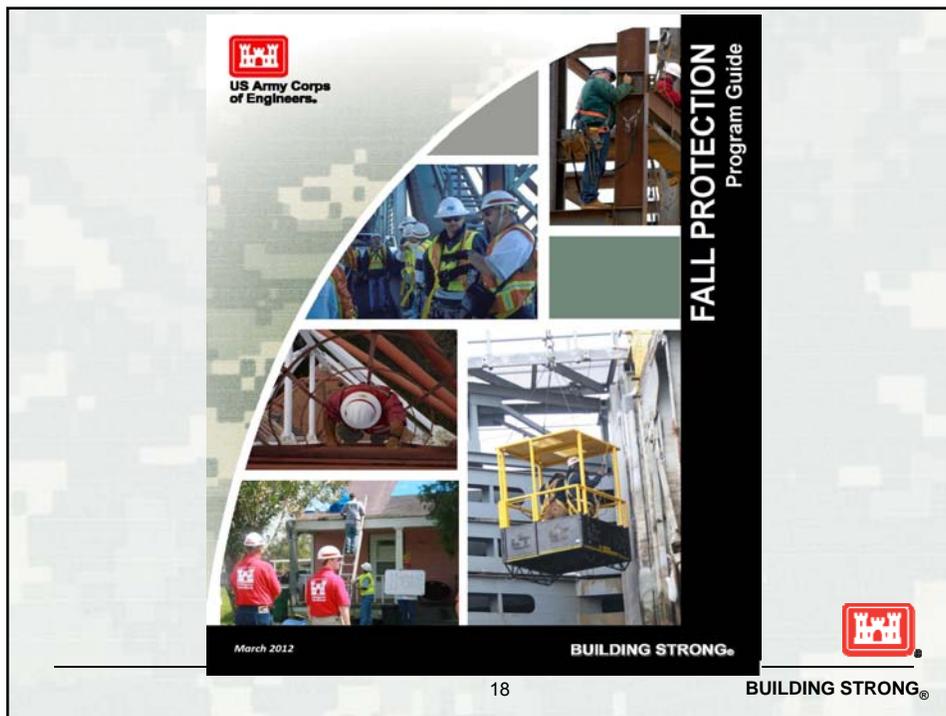


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Status of the WG's

- Fall Protection WG – functional by 1 May 11
 - ▶ Provide numerous answers/interps/clarifications
 - ▶ Made provisions/provided funding for FP survey of L&D in Huntington District
 - ▶ Collecting incident/accident data and performing analyses
 - ▶ Provided USACE Fall Protection Guide (Apr 12)
 - ▶ Assessing CP, QP others (personnel qualifications) of USACE so that SME's can be further developed where needed



Status of the WG's

Control of Hazardous Energy (Lockout/Tagout) functional by 15 May 11 (HEC WG)

- Worked revision of EM 385-1-1, Section 12 and 11 for 2013
- Revising ER 385-1-31 (in-house HEC document) for revision in FY13
- Collecting incident/accident data and performing analyses
- Performed 2 audits of problematic contractor programs
- Served on 3 HEC/electrical BOIs
- Review all electrical accidents/incidents for input



Status of the WG's

Arc Flash Hazards WG – being formed now but will probably work closely (sub-WG) of HEC WG and deal with all electrical issues

- Functional 15 May 12
- Will finalize ER 385-1-100 and EP 385-1-100 (AF Hazard Regulation and Engineering Pamphlet (EP) (HOW TO) for in-house
- Will review/maintain EM 385-1-1, Chapter 11 (Electrical) and associated parts (contractors)
- Collecting incident/accident data and performing analyses
- Review/input on 5 electrical incidents/accidents in FY12



Status of the WG's

- ▶ Underwater Diving WG – already formed
- ▶ Completely functional
 - Will review/maintain EM 385-1-1, Chapter 30
 - Already collecting incident/accident data and performing analyses
 - Rewriting Dive Regulation
 - Evaluating Dive Training (Prospect)



Accident Analysis Comparison FY10, 11 and 12 (1st Qtr)

	FY10 (1 st Qtr)	FY11 (1 st Qtr)	FY12 (1 st Qtr)
BOIs	1	5	1
-Fatals	0	1	0
-PPD*	1 (fingers)	1 (fingers)	0
-Prop Damage	0	3 (\$3.4M)	1 (\$250K)
LWD** accidents	5	9	0
Property Damage	4 - \$178K	4 - \$395K	3 - \$10K
Minor Incidents***	n/a	n/a	7

*PPD = permanent partial disability (normally loss of a body part/function)

**LWD = lost work day (recordable)

***Minor Incidents = NOT normally reported. Data Call 2011 and OPORD required these to be reported thru FY12 for trending purposes and to catch issues early.



HHWG Recommendations

2. Action plan be developed/submitted, submitted to CESO, by 23 Dec 11 on operator qualifications.
 - over 200 operators currently deficient – unfit or unqualified (HIGH RISK)
 - By 6 Jan 12 for other program elements:
 - in-house equipment inventory
 - training plan
 - inspection plan
 - milestones to correct deficiencies
 - Optns or E&C POC name for accountability on gathering info



HHWG Recommendations

Other Actions:

- Engineering & Construction will have a plan to train key located personnel as local resources
- Require Crane Certificate of Compliance like Navy on contract work – requires contractors to certify cranes/hoisting equipment brought on site (puts burden back on contractors)
- Start performing district/facility-specific program OSHA-mandated audits.



Crane WG – Updated Actions

- Crane WG met in Portland, OR (January 2012)
 - OPORD data review and document
 - Develop “standardized” in-house training (operator, rigger and sign person initial and refresher)
 - Documented and answered Frequently Asked Questions that have come in from field personnel
 - Worked on Change #7 - Identify pending changes to (EM)
 - Issued an immediate clarification to field (tainter gates should not be in the crane inventory as they are considered winches, not hoists)



OPORD Summary (as of 23 Dec 11)

- Of 2,050 operators, 54% are qualified
- Of 1306 riggers identified, 77% are qualified
- USACE has a total of 3700+ cranes and hoists
- Inspection and testing of this equipment is not being performed (generally)
- Equipment and personnel requirements weren't generally understood or being followed
- Training webinars have increased knowledge and allowed workers to ask questions



HHWG Accomplishments and Actions

- Requested to perform assessments/training in Jan (LRL, NAN, NAB, SWF, SPA, NWO, SWT, NAO, NWP, NWD)
- Have held 11 training webinars and scheduled to hold 3/month for FY12
- Perform accident analysis and develop training tools
- Produce quarterly Counterweight publication
- Audit Prospect Crane Safety Class 3x/year

- Identifying all in-house trainers; reviewing qualifications/certifications and training curriculums used; developing consistent and compliant training program, curriculum and resource to insure programmatic compliance USACE-wide.



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Recommended Actions

- Issue FRAGO to OPORD that provides follow-up on status of personnel qualifications and equipment requirements
- Requires continued reporting of near-misses through FY13 (after which benefit will be assessed)
- Continue to endorse crane program training for QA's, engineers and/or others involved in the crane program (in Engineering & Construction and Operations)
- Get Crane Certificate of Compliance into contract work
- Start performing district/facility-specific program OSHA-mandated audits (in-house, by Navy, or vendor)



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Accident Analysis Comparison FY 11 and 12 (as of 3rd Qtr)

	FY11 (3rd Qtr)	FY12 (3rd Qtr)
BOIs	11	1
-Fatalis	5	0
-PPD*	2 (fingers/head)	0
-Prop Damage	4 (\$4.2M)	1 (\$250K)
LWD** accidents	15 (112 lwd / 76rwd)	12 (124 lwd / 96rwd**)
Property Damage	11 - \$1.537M	17 - \$217K
Minor Incidents***	5***	6

*PPD = permanent partial disability (normally loss of a body part/function)

**LWD = lost work day (recordable); rwd=restricted work days

***Minor Incidents = NOT normally reported. Data Call 2011 (Jun-Sep) and OPOD 2011-82 required these to be reported thru FY12 for trending purposes and to catch issues early.



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Conclusion

- We recognized the trend
- We took steps to identify the problem
- Much needed Command/worker attention to the problem which is now being given the time, attention and resources needed to bring our personnel and program into compliance by training, itemizing and tracking equipment and status of same, program auditing, partnering with Navy, recording and sharing lessons learned bring it into compliance



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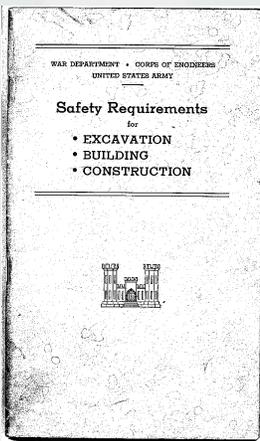
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Conclusion (continued)

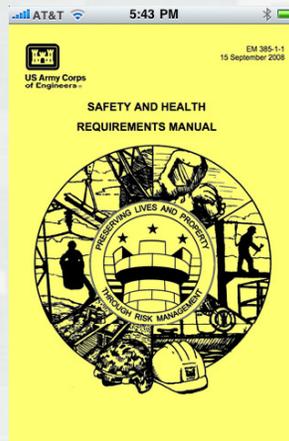
- We continue to incur accidents however they have been less serious in nature (while lost work days are greater by 1/3, BOI's, fatalities and high property damage accidents are down drastically).
- By end of FY12, while not in total compliance, we have made notable progress; goal is to be in full compliance by end FY13 if not before.



EM 385-1-1 WHAT'S NEXT



1943



2008



EM 385-1-1

- 1st draft has been vetted to the field for comment. We are currently collecting compiling and sorting through comments
- 2nd draft forthcoming

- GOAL – have the EM completed and ready for final review by end-of-year.



Conclusion

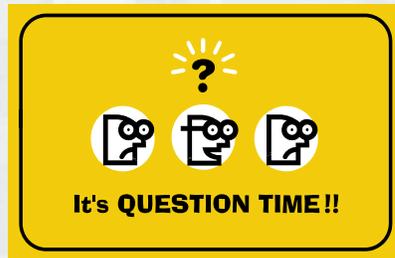
- Go to CESO website for current info:
<http://www.usace.army.mil/CESO/Pages/Home.aspx>
- Volunteer your expertise (expand to DA?)
- REPORT near misses/incidents
- Read what is being published to better learn the requirements & their meaning
 - “Counterweight”

- EM 385-1-1, 2008 is being revised (2013 goal);
Submit questions for clarification, suggested EM changes, report what works and what doesn't



If you're working in the South Atlantic Division and have safety-related questions, please contact me at:

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<http://www.usace.army.mil/CESO/Pages/Home.aspx>

