THE CRANE CORNER

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Inside this issue:

A WORD FROM TOPSIDE

Tim Blanton

FY19 contractor crane safety to date is a significant cause for concern. Of the 10 contractor crane accidents reported thus far in FY19, six were significant. Additionally, contractor crane near miss reporting is down, which is typically a strong indicator of declining contractor performance and oversight. In the last three plus months, contractors experienced three very severe crane accidents. Of particular concern, two accidents involved the parting of a mobile crane's hoist wire rope, a rare event. Although both accidents resulted in dropped loads, one resulted in the dropping of a 10,000-pound hydraulic pump onto a connex box with three contractor personnel inside. It was extremely fortunate that no one was injured. In the third severe contractor crane accident, personnel were not so lucky. The accident, which occurred in a foreign country, resulted in two contractor employees being struck by 120 pounds of falling rigging gear. Both employees were injured, one critically, requiring medivac to the U.S. We recently issued three weight handling program briefs, WHPBs 19-03, 19-04, and 19-05, each of which dealt with different aspects of contractor crane oversight and accident reporting requirements. Each of these briefs reinforced NAVFAC P-307 contractor crane oversight requirements, which are the minimum required. In many cases, as evidenced above, the minimum requirements are not sufficient, particularly in today's Naval construction environment.

The Navy's construction workload remains high and is expected to increase over the next several years. The Public Shipyard Optimization Plan ($21B over the next 20 years) is just one of many reasons for the increase. As a result, there will be increased reliance on construction contractors and sub-contractors, many of which will have little or no experience with Navy contractor crane requirements. Similarly, the Navy is hiring a significant number of contracting officers (KOs), construction managers (CMs), and engineering technicians (ETs) to provide construction oversight, who will also lack experience in contractor crane oversight.

As discussed in Weight Handling Program Brief (WHPB) 19-04, contracting officers or their designated representative must perform contractor crane oversight on their projects at least every 30 days (14 days if critical lifts are involved, which they frequently are) and the oversight must be documented by the government representative on NAVFAC P-307, Figure P-2 or the ACOE EM 385-1-1 equivalent. In many cases, our evaluation teams have identified that the contractor as opposed to the government are completing the forms and that minimum oversight requirements are not being met.

It cannot be stressed enough, that in many cases, minimum government oversight requirements will not be sufficient and is the basis as to why NAVFAC P-307, paragraph 11.2.a states that these are minimum requirements and that the degree of oversight is based upon the risk.

Proven contractors with strong historical performance with regard to weight handling safety can, and should receive, the minimum level of government oversight. However, a relatively unknown contractor, or one that has a history of poor performance should receive significantly more oversight, until the contractor proves that they will adhere to contract requirements.

For the three severe accidents discussed above, the contractors were working in relatively isolated areas, which were fenced off to prevent Navy personnel and property from being exposed to hazards. Although contractor crane oversight in these instances is more difficult due to the distance to the actual work site, oversight is still necessary and should focus on major safety items, which can still be observed. This would include such items as moving loads over personnel, personnel unnecessarily in fall zones, operators making rapid movements or using the crane improperly resulting in impact loading, and contractor crane team personnel not being attentive. It is also extremely important to perform strong oversight of the contractor's equipment and associated rigging gear when coming onto the activity.

A team effort is required to ensure contractor cranes operate safely in support of Naval operations. The Navy Crane Center sets contractor crane oversight policy, develops contractor crane awareness training, collects accident data, and conducts spots checks of contractor crane oversight during weight handling program evaluations. Navy construction projects number in the hundreds and are being conducted in numerous states and foreign countries. Strong contractor crane oversight by knowledgeable on-site personnel is paramount. Many of the ETs who oversee contractor crane work have multiple projects and may have limited experience in weight handling oversight. For this reason, it is critical that local/regional contractor crane oversight personnel (KOs, CMs, and ETs) reach out to local/regional weight handling program subject matter experts (SMEs), such as public works departments with weight handling programs or larger tenant commands with weight handling programs for assistance and mentoring. In the absence of on-site or regional weight handling program SMEs, personnel responsible for contractor crane oversight can still reach out via e-mail and telecom to out-of-area SMEs or your cognizant regional Navy Crane Center evaluation team for information, clarification of requirements, guidance, and mentoring.

I request that each of you ensure widest dissemination of this article. As I have noted above, the Navy's construction effort is growing and has the potential to impact a high number of people to include Navy and Marine Corps uniformed members, the civilian workforce, dependents, and the contractors themselves.

TIP OF THE SPEAR
SECOND QUARTER FY19 EVALUATION SUMMARY

All 46 activity weight handling programs evaluated in the second quarter were fully satisfactory. Monitor (observation) program issues continued to dominate evaluation items, as 41 of the 46 evaluation reports contained items related to this program. Evaluation teams continued to observe tangible deficiencies and unsafe practices that were routinely missed by activity weight handling personnel. Training in what to look for by experienced observers is highly recommended. Significant weakness in self-assessments, a lack of lower order accidents and near misses reported, and metrics development were also noted with 21, 20, and 18 items found in these areas, respectively.

SATISFACTORY CRANES
34 of 36 cranes were satisfactory (94%).

Reasons for Unsatisfactory Cranes
The load moment test was performed incorrectly.
The crane did not meet the requirements of the approved crane alteration request.

EVALUATION ITEMS

Common Evaluation Items (five or more items):

- Lack of monitor program or established program that needs improvement or does not cover all program elements – 41 items.

- Weakness in (or non-existent) activity self-assessments, self-assessments not acted upon, not internally focused, not developed utilizing documented monitor or metrics data – 21 items.

- Lack of (or low number of) lower order crane accident/or rigging accident and near-miss reports – 20 items.

- Various unsafe crane and rigging operations observed by the evaluation team (side loading, unattended load, standing/walking beneath load, operating without signals, poor signaling, pinch points, slings bunched in hooks, load not balanced, no synthetic sling protection, brakes not checked at start of lift, side loading of shackles, trackwalker out of position, swivel hoist rings not torqued, trolley racked to one side, etc.) – 19 items.

- Lack of leading metrics/metrics not being properly analyzed – 18 items.

- Operators/riggers/inspectors/test directors lacked essential knowledge (recognizing crane accidents, complex lifts, knowing the weight of the load, how to connect special equipment, etc.) – 17 items.

- Training issues, including contractor personnel training not taken, training weak or not effective, refresher training not taken or not taken within three months of license renewal, lack of inspector training, instructor not authorized by NCC, locally required training not taken, training course score less than 80 percent, non-Navy eLearning (NEL) certificates) – 17 items.

- Lack of, ineffective, or insufficient crane replacement/modernization plan – 13 items.

- Operator's Daily Check Lists/Operator's Monthly Check Lists (ODCLs/OMCLs) and simulated lifts performed incorrectly or not performed - 12 items.

- Inspection and certification documentation errors – 9 items.

- Operator license/file discrepancies (no objective quality evidence (OQE) of performance exam, examiner not licensed, no OQE of safety course, no OQE of operation to waive performance test, course not signed by examiner, course improperly graded, corrective lenses not noted, course not graded, licensed for more than 2 years, license not in possession of operator, operating with expired license/training, operating with no license) – 9 items.

- Operator's Daily Check Lists/Operator's Monthly Check Lists (ODCL/OMCL documentation deficiencies (including incorrect form used and pre-completed forms) – 8 items.

- Poor inspections/inspection processes (incl. inspector removing load bearing fasteners voiding certification, inspections not performed, work documents not available for in-process inspections, unsafe practices, wire rope not inspected completely, fall protection, Personal Protection Equipment (PPE) not utilized, deficiencies not identified, lack of a fall protection plan, bearing clearance checks not performed) – 8 items.

- Local Weight Handling (WH) instruction/ Standard Operating Procedures (SOPs) non-existent or inadequate – 8 items.

- Unrecognized/unreported accident, near miss, or unplanned occurrence (including damaged gear not investigated for cause) – 8 items.

- Poor maintenance planning and/or execution (parts not tagged/bagged, hazardous materials not properly stored, work documents not available, lubrication not per schedule, lack of long-range maintenance schedule, components not reassembled properly, activity deficient in structural bolt installation, missing screws) – 6 items.

- Crane improperly stowed/secured (hook block in, or too close to, upper limit switch or stowed in path of traffic, machines, etc., power not secured, stowed with gear left on hook and the hook latching mechanism not secured) – 5 items.

- Bound load issues (not identified as complex lifts, load indicating device not used, chainfall not used) – 5 items.

- Expired or non-program gear in use or not segregated from in-service gear – 5 items.

- No procedure for tagging equipment with known deficiencies and/or tagging equipment that is out of certification – 5 items.

SUMMARY OF WEIGHT HANDLING EQUIPMENT ACCIDENTS FIRST QUARTER FY19

The purpose of this message is to disseminate and share lessons learned from select shore activity weight handling accidents, near misses, and other unplanned occurrences so that similar events can be avoided and overall safety and efficiency of operations can be improved .

For the first quarter of FY19, 65 Navy weight handling accidents (54 crane and 11 rigging) were reported. Accident reporting decreased slightly (from 67) in the first quarter when compared to the fourth quarter of FY18; however, the number of significant accidents (15 crane and 6 rigging) increased approximately 29 percent (21 compared to 15). The 21 significant accidents are the highest total when compared to the first quarters of the previous three years (closest total was 18 in FY18). The significant accident rate for the quarter was 32 percent. On a positive note, none of the significant accidents were OPNAV reportable and early second quarter 2019 data is showing signs of improvement with regard to accident severity rates. Overloads and dropped loads accounted for 76 percent of all significant accidents.

Of the 44 remaining accidents, collisions (23) were the top category reported. Significantly noteworthy, 10 of the 23 collision accidents involved avoidable contact with no resulting damage. Reporting these types of events is a sign of a healthy (mature) weight handling program and is looked at favorably by our evaluation teams. Contractor crane performance and oversight remains an area of concern. Eight contractor accidents (three crane and five rigging) were reported in addition to the above accidents, six of which were significant (four dropped loads and two injuries) for a 75 percent significant accident rate.

INJURIES

Four injuries (two crane and two rigging) were reported. During removal of a battery cell from a single cell module, an employee's thumb became pinched between the module and the battery cell. A mechanic's hand was injured during operational checks of a hoist brake during crane maintenance. A worker's hand was injured when it was caught between a pump housing and foundation during final alignment of the pump to the foundation. A worker was injured when the transfer dolly slipped out from under the load causing the dolly to strike the worker.

Lessons Learned: All of these accidents were the result of employees placing their body or a portion of their body in a pinch point. Additionally, personnel did not follow guidelines discussed in pre-job briefs on body and extremity positioning or it was not discussed at all. To prevent future injuries during battery removal, the activity is evaluating the design of a handle to aid in future evolutions that do not require employees to place their hands on the batteries. In the case of the maintenance worker injury, the need for hazardous energy control was not recognized. As a lesson learned, the activity implemented an alternative non-contact method for checking brake temperatures as the primary method.

OVERLOADS

Nine overload accidents (eight crane and one rigging) were reported. A portal crane and rigging gear were significantly overloaded during lifts of a ship sub-section when the crane team used an incorrect component weight. A synthetic sling was overloaded during the lift of a test weight resulting in separation of the sling eye. On two separate occasions, hooks on an engine lift sling were damaged during a lift. Lifting pads on a forklift being lifted by a portal crane were overloaded when the forklift was lifted without following the manufacturer provided lift sketch. A chain hoist was overloaded when it snagged during removal of a tool assembly using a bridge crane. Rigging gear was overloaded and damaged during repositioning of a dive plane. While lifting a container full of staging material, the safe working load of the container was exceeded. A lifting fixture was overloaded during a rigging evolution.

Lessons Learned: Over half of these accidents could have been avoided if a load indicating device had been used in-line with the rigging arrangement and monitored during the lift. Some accidents occurred because rigging personnel did not verify weights to be lifted. Weights can be obtained through technical work documents or having engineering perform an evaluation. Established procedures were not followed in a few of these accidents that resulted in hooks being damaged (point loaded) and forklift pads being overloaded. In the case of the sling eye parting and the rigging gear on the dive plane, inadequate briefings were major contributing factors to these events.

Rigging gear capacity and roles and responsibilities of rigging personnel must be established and discussed prior to any rigging evolution.

DROPPED LOADS

There were eight dropped load accidents (five crane and three rigging). During offloading of a tomography unit, the unit shifted in the rigging and dropped six inches to the ground. While lowering a special tool through a cleanliness sleeve, the tool hung up on a section of the sleeve then suddenly released and contacted a training module. A cylinder being placed on the table of a milling machine rolled off the table and onto the shop floor. During a provisions on-load, material fell from a pallet and contacted the pier. A propeller lifting fixture's rotate bearing and hinge pin failed during rotation of the propeller resulting in a dropped load. A section of pipe being rigged into position fell from the rigging and struck a work platform. During uncrating of a new piece of equipment, a manufacturer supplied swivel hoist ring failed. While rigging a shipboard spring assembly, the assembly fell apart in the rigging causing material to drop to the deck.

Lessons Learned: Some of these dropped loads could have been avoided if the riggers utilized safe rigging practices when lashing components to be lifted. In a couple of these instances, short cuts were used, which created an unbalanced load. Two of the dropped loads were the result of inadequate load inspections prior to lifting to ensure all components were intact and not damaged prior to the lifts. In the case of the propeller fixture, a securing pin was not adequately installed. The manufacturer provided swivel hoist ring dropped load could have been averted by replacing the manufacturer's gear with rigging gear that is in a test and inspection program.

CRANE COLLISIONS

As noted above, crane collisions continued to be the number one accident type. After aligning the whip hook over a load, the headache ball contacted a platform due to inadequate control of the hook in close proximity to the platform. A portal crane contacted the upper section of a staging containment erected near the crane rails. A communication tower being removed from a vertical position shifted in the rigging and contacted the boom of the crane. While disconnecting rigging gear from a forklift, one of the lifting shackles swung into the forklift cab window and broke the window. A recently reactivated bridge crane collided with a light in the overhead causing damage.

Lessons Learned: While these were just some of the collisions reported, some of these collisions occurred due to tight tolerances and inadequate use of taglines or assist personnel. Some were the result of a lack of awareness of intrusions into the crane operating envelope. Building crane operators continue to have collisions due to improper facility maintenance. Prior to operation of cranes that have been inactive for long periods of time, the operating envelopes should be reviewed for signs of building renovations that may impact the cranes' safe operation.

NEAR MISSES

Activities reported 42 near misses this quarter (33 crane and 9 rigging). This is a 58 percent decrease from the first quarter of FY18 and a 21 percent decrease from the fourth quarter of FY18. Additionally, there were five contractor near misses reported (four crane and one rigging). A healthy activity triangle should have as a minimum, a 3:1 near miss to accident ratio. Unfortunately, more Navy accidents than near misses were reported this quarter. A near miss is an unplanned event during a weight handling operation that did not result in a definable accident but easily had the potential to do so. Only a break in the chain of events prevented an accident. Simply put, a near miss is an accident that almost took place. Weight handling program personnel and their managers need to be vigilant to identify potential near misses in the field and review of monitor program data. Examples of good near misses reported this quarter were: a portal crane nearly derailed due to a misaligned switch; a crane operator rotated the crane/load in the wrong direction; and during pre-load testing, the test director identified an incorrect test weight in the procedure.

UNPLANNED OCCURRENCES

Activities reported 28 unplanned occurrences (20 crane and 8 rigging). An unplanned occurrence describes an event that does not meet the definition of a crane or rigging accident but results in injury or damage to a crane, crane component, or related equipment due to an event not directly related to a weight handling operation.

Some notable unplanned occurrences were: a worker was injured when a jack being used to lift a crane engine slipped and struck the worker in the side; the right rear outrigger pad foot step and cylinder received minor damage when the operator hit a bollard while backing up the crane; and a floating crane was severely damaged when it broke from its mooring during a storm and struck an adjacent pier. Significant crane maintenance errors should also be captured by using unplanned occurrence reports.

Weight handling program managers, operations supervisors, and safety officials should review the above lessons learned with personnel performing weight handling operations and share lessons learned at other activities with personnel at your activity. Data reported in the first quarter of FY19 indicates a declining trend in reporting of near misses, which correlates to the increase in significant accidents. As noted above, the percentage of significant accidents reported in the first quarter is the highest it has been in the last four years. All activity personnel are encouraged to participate in your activity's monitor program to identify some of the poor crane and rigging practices that can lead to significant accidents if left unchecked. With your help I'm confident this negative trend can be reversed.

CRANE SAFETY ADVISORIES AND EQUIPMENT DEFICIENCY MEMORANDA

We receive reports of equipment deficiencies, component failures, crane accidents, and other potentially unsafe conditions and practices. When applicable to other activities, we issue a Crane Safety Advisory (CSA) or an Equipment Deficiency Memorandum (EDM). A CSA is a directive and often requires feedback from the activities receiving the advisory. An EDM is provided for information and can include deficiencies to non-load bearing or non-load controlling parts. A complete list of CSAs and EDMs can be found on the Navy Crane Center's web site.

CSA 234A – dtd 30APR19 CYBERSECURITY FOR WEIGHT HANDLING EQUIPMENT (WHE)

Reference (a) MEMO/DCNO N2N6 Ser N2N6/16U119025 dtd 28MAR16, Appointment of System Command Functional Authorizing Officials

Reference (b) MEMO/SPAWARSYSCOM Ser 5.0/914 dtd 26SEP16, Technical Warrant Holder (TWH) Designation

Reference (c) DODI 8500.01 Cybersecurity

Reference (d) OPNAVINST 5239.1D, U.S. Navy Cybersecurity Program

Reference (e) NAVFAC CIO Bulletin 2018-01, Cybersecurity Hygiene Checklist Update

Reference (f) DODI 8510.01 Risk Management Framework (RMF)
Reference (g) NAVFAC Control Sustainment Roles and Responsibilities Document Of 7 Jul 2017
Reference (h) NAVFAC P-307, Weight Handling Program Management

1. Revision: CSA 234A directs activities to complete and submit a WHE cybersecurity inventory form to identify WHE with microprocessor controls, mobile cranes with microprocessor based Load Moment Indicators (LMI's), Rated Capacity Indicators (RCI's), Rated Capacity Limiters (RCL's), and mobile cranes with remote diagnostic and/or information services capability (telematics). This revision is to clarify that listing of the serial number is optional when completing the WHE cybersecurity inventory form. This revision replaces CSA 234 in its entirety.

2. Background:

A. The purpose of this CSA is to establish awareness and provide the initial direction for cybersecurity requirements for WHE equipped with microprocessor controlled systems, and mobile cranes equipped with microprocessor based Load Moment Indicators (LMI's), Rated Capacity Indicators (RCI's), Rated Capacity Limiters (RCL's), and remote diagnostic and/or information services (telematics).

B. NAVFAC is tasked as the functional technical authority for cybersecurity of WHE and the cybersecurity technical authority and functional authorizing official for all facility related control systems per references (a) and (b). The Navy faces threats from cyber-attacks that could disrupt or disable critical infrastructure. WHE is not immune from these types of attacks.

Microprocessor controlled WHE, even when not connected to the internet, is considered platform information technology (PIT) and must remain secure from cyber-attacks in accordance with the guidance in references (c) and (d).

C. Following this initial direction, future direction may include completing the reference (e), and determining the appropriate implementation of the reference (f), for WHE. Activities may be responsible for the Information Systems Security Engineer (ISSE) functions and producing artifacts for review by the NAVFAC Functional Security Control Assessor (FSCA) and Functional Authorizing Official (FAO) per references (a) (b) (d) and (f). NCC recommends that activities complete reference (e) on at least one microprocessor controlled crane with the assistance of their local NAVFAC CIO.

D. This CSA has been coordinated with and is concurred by the NAVFAC CIO for cybersecurity.

3. Direction:

A. Activities shall identify WHE with microprocessor controls, mobile cranes with microprocessor based LMI's, RCI's, and RCL's, and mobile cranes with remote diagnostic and/or information services capability (telematics). Activities shall identify whether the WHE is connected to the internet. Activities shall fill out all information on WHE cybersecurity inventory form and return to NCC. Removal of cards or components, which would require crane recertification, are not required to complete the inventory form. The inventory form and instruction can be found at the following location: https://hub.navfac.navy.mil/webcenter/content/conn/WebCenterSpaces-ucm/uuid/dDocName:ID_2991920.

B. Activities shall identify whether equipment identified in paragraph 3.A above can be connected to the internet. All WHE shall be disconnected from the internet if it is presently connected; disconnection shall be documented on a Crane Alteration Request (CAR). NAVFAC activities shall follow reference (g) in addition to this CSA.

C. For mobile cranes, the mobile crane OEM shall be contacted to ensure that any remote diagnostic and/or information services (telematics) are not activated, and disabled and/or removed if possible. Event recorders or data loggers, if present, should not be removed or disabled.

D. As required by reference (h), activities are required to have processes in place for maintenance of microprocessor controlled crane systems. This includes mobile cranes with microprocessor based LMI's, RCI's, and RCL's. Activities shall verify that these processes are in place for all applicable WHE.

E. For remote/portable computers that are utilized to connect to microprocessor controlled WHE, the portable computers shall be identified and meet the activities local CIO requirements for cybersecurity.

4. Timeline:

A. All activities were to review their WHE inventory and complete the WHE cybersecurity inventory form identified in paragraph 3.A by 30 April 2019 as directed by CSA 234.

B. Complete requirements of 3A-3D within 3 months of issuance of this revised CSA.

C. Complete requirements of 3E within 6 months of issuance of this revised CSA.

WEIGHT HANDLING TRAINING, SAFETY AND PROGRAM BRIEFS

Weight Handling Training, Safety and Program Briefs (WHTSPBs) are provided for communication to weight handling personnel. The following briefs were issued during the past quarter.

The briefs are not command-specific and can be used by your activity to increase awareness of potential issues or weaknesses that could result in problems for your weight handling program. They can be provided directly to personnel, posted in appropriate areas at your command as a reminder to those performing weight handling tasks, or used as supplemental information for supervisory use during routine discussions with their employees. When Navy Shore Weight Handling Training, Safety and Program Briefs are issued, they are also posted in the Accident Prevention Info tab on the Navy Crane Center's web site at http://www.navfac.navy.mil/ncc.

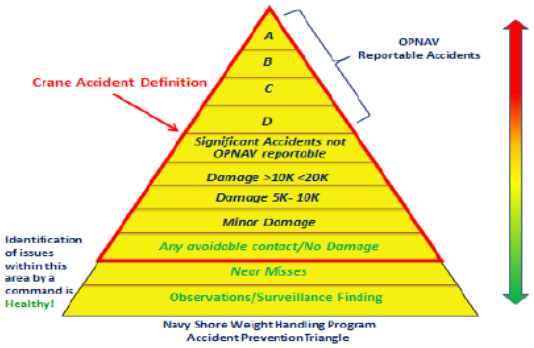
Navy Crane Center point of contact for requests to be added to future WHPB distribution is nfsh ncc crane corner@navy.mil.

Navy Shore Weight Handling Training Brief!

Title: Decline of Near Miss Reporting
Target Audience: All Personnel Associated with the Weight Handling Program

A quarterly review of near miss reporting indicates a declining trend in activity reporting. This coupled with evaluation team identification of monitor program compliance weaknesses highlights that many more near miss events are occurring but are not being captured to provide activities valuable learning opportunities.

Near miss reports are an essential element of the Accident Prevention Triangle and key to preventing more serious accidents. How does your activity Accident Prevention Triangle look?



- Near misses provide lessons learned that do not fall under the Navy crane and rigging accident definitions and are required to be reported per NAVFAC P-307, paragraph 12.5 using Figure 12-2. A near miss is an accident that almost took place.
- Recognition of near misses sensitizes us to pay attention to detail and therefore reduces the potential of a more significant event.
- It is important that personnel understand that near misses can occur frequently during weight handling operations and that scenarios relating to near misses vary widely. Training and awareness of near miss identification and reporting should be an integral component of every activity's weight handling program.
- All individuals should be encouraged to identify near miss learning opportunities. Additionally, strong internal surveillance (monitoring) programs are a great tool that can also be used to identify potential near misses.

The goal of every weight handling program should be zero significant accidents.

17 January 2019 | **Training** | *Navy Crane Center 19-T-01*

Navy Shore Weight Handling Program Brief

Title: RCDR and FAQ Posted to NCC Website
Target Audience: All Weight Handing Program Personnel

Navy Crane Center's website has recently been updated with two new documents. These documents can be found by clicking on the **P-307 button** on the Navy Crane Center homepage at: *http://navfac.navy.mil/ncc*

- Request for Clarification, Deviation or Revision (RCDR) 19-001: Posted to provide clarification of testing requirements with respect to crane grounding verification. Reference NAVFAC P-307 Appendix D, MISR Item 21A.

Note: Per NAVFAC P-307, paragraph 1.9, this RCDR along with other RCDRs posted on the Navy Crane Center website are applicable to all shore-based Navy activities.

- P-307 FAQ: A listing of frequently asked questions and responses for the 2016 revision of NAVAFC P-307 is available. This list will be periodically updated with new questions and responses.

First, click on the P-307 button on the main page.

Second, click on either the P-307 FAQs button or the P-307 Questions and Interpretations (RCDR) button.

24 January 2019 | **Navy Crane Center** | WHPB-19-02

Navy Shore Weight Handling Program Brief

Title: Contractor Crane Accident and Near Miss Reporting Process

Target Audience: Weight Handling Program and Contractor Crane Oversight Personnel

Recent contractor accident and near miss reports indicate that many contractors and contracting officers are not following NAVFAC P-307 requirements.

Contractor Responsibilities (NAVFAC P-307, Paragraphs 11.1h & i)

- To notify the contracting officer **as soon as practical, but not later than four hours**, after any weight handling equipment (WHE) accident. (See definition in NAVFAC P-307, Section 12.)
- Secure the accident site and protect evidence until released by the contracting officer.
- Conduct an investigation to establish the root cause(s) of any WHE accident, near miss, or unplanned occurrence.
- Crane operations shall not proceed until the cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer.
- Provide the contracting officer a report for an accident or near miss within 30 days using the appropriate form provided in section 12 consisting of a summary of circumstances, an explanation of causes(s), photographs (if available), and corrective actions taken.

Contracting Officer Responsibilities (NAVFAC P-307, Paragraph 11.2)

- The contracting officer shall notify the host activity of any WHE accident upon notification by the contractor.
- Notify the Navy Crane Center, by e-mail (m_nfsh_ncc_accident@navy.mil), of an accident involving a fatality, in-patient hospitalization, overturned crane, collapsed boom, or any other major damage to the crane or adjacent property **as soon as possible, preferably within 8 hours** of notification by the contractor.
- For all other accidents, notify the Navy Crane Center as soon as practical but no later than 3 working days after the accident.
- Provide the Navy Crane Center and host activity a copy of every accident and near miss report.
- When the contracting office is not in the local area, the contracting officer shall designate a local representative to ensure compliance with the above noted requirements.
- The contracting officer or designated weight handling representative shall sign all crane and rigging accident and near miss reports to indicate that they are satisfied that the contractor's investigation and corrective action(s) are sufficient.

6 February 2019

Navy Crane Center

WHPB-19-03

Navy Shore Weight Handling Program Brief

Title: Contractor Crane Oversight (P-2 Form)

Target Audience: Contracting Officer, WHP and Crane Oversight Personnel

Non-Navy-owned cranes, multi-purpose machines, material handing equipment, and construction equipment are frequently used on Navy property to lift suspended loads. NAVFAC P-307, paragraph 11.2 requires the Contracting Officer to ensure compliance with contract requirements, provide oversight of contractor crane and rigging operations, and provide oversight of contractor accident investigations and corrective actions including the following:

- ❑ The **Contracting Officer or their designated representative shall perform periodic government oversight** of the contractor crane and rigging operations.
- ❑ Degree of oversight is based upon the risk to personnel and property but **must be performed at least once and as a minimum, every 30 days**.
- ❑ When operations include **critical lifts, oversight** is increased to **at least once every 14 days**.
- ❑ NAVFAC P-307, Appendix P, **Figure P-2** (or equivalent EM-385 form for construction contracts) **shall be used to document Government oversight**.
- ❑ **Figure P-2** shall be **completed by Government** oversight personnel, **NOT the contractor**.
- ❑ Personnel performing oversight are required to complete **Contractor Crane Awareness** or **Contract Hazard Awareness** training.

CONTRACTOR CRANE OR RIGGING OPERATION CHECKLIST

		YES	NO	N/A
1	Is the Certificate of Compliance, P-1, in the operator's cab (or in the contractor's on-site office for rigging operations) with the current operator's name listed?			
2	Is the crane/machine transited to and from the job site correctly? Are the OEM instructions for travel being followed?			
3	Does the operator know the weight of the load to be lifted?			
4	Is the load to be lifted within the crane/machine manufacturer's rated capacity in its present configuration?			
5	Are outriggers/stabilizers required and, if so, are they properly extended and down?			
6	If outrigger/stabilizers are used, and the wheels are not off the ground is this the correct setup in accordance with the OEM?			
7	Is the crane/machine level and on firm ground, or if the ground is not firm are adequate supporting materials provided?			
8	If supporting materials are provided, is the entire surface of the outrigger/stabilizer pad supported and is the supporting material of sufficient strength to safely support the loaded outrigger/stabilizer pad?			
9	If outriggers/stabilizers are not used, is the crane/machine rated for on-rubber			

NAVFAC P-307 P-2 FORM COMPLETED BY GOVERNMENT REPRESENTATIVE

21 February 2019

Navy Crane Center

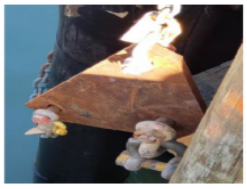
WHPB-19-04

Navy Shore **Weight Handling Program** Brief

Title: Contractor Crane Accident Severity

Target Audience: Weight Handling Program and Contractor Crane Oversight Personnel

Recently, a weight handling program brief (WHPB-19-03) was issued to discuss contractor and contracting officer oversight requirements. Metrics thus far in FY19 indicate **contractor crane oversight is waning** and that oversight personnel may not be familiar with NAVFAC P-307's crane accident or near miss definitions (e.g., avoidable contact with no resulting damage is still a reportable accident). Personnel are reminded that the **contracting officer or designated weight handling representative must ensure contractor crane and rigging operations are monitored at the minimum periodicity specified in NAVFAC P-307 paragraph 11.2.a.** The degree of oversight shall be based on risk to personnel and property but in no case less than every 30 days.



Broken Safety Latch → 120 pound spreader fell onto 2 workers.

Buckled Boom

So far in FY19, 10 contractor crane accidents (6 significant) have occurred, including 3 dropped loads (2 where the wire rope parted), 2 serious injuries during 1 event, and 2 overloads. None of the 10 accidents were lower threshold (avoidable contact with no damage) events and only 4 contractor crane near misses have been reported.

Significant accidents include:

- Two contract workers sustained **serious injuries** when a 120 pound spreader plate came off the hook and struck the workers.
- A barge-mounted mobile crane's **wire rope parted** causing a 10,000 pound hydraulic pump to fall onto a conex box occupied by several personnel.
- The whip **hoist wire rope parted** during piling extraction while using a water jet attachment dropping the water jet.
- The **boom of a category 4 crane buckled** while lifting a forklift.
- While positioning a load, the rigging gear was altered allowing the load to become unstable and fall to the deck.
- A steel shoring rod fell from a palletized bundle of shoring material and dropped to the ground.

Please ensure widest dissemination of this alert/brief to all personnel involved in contractor crane operations and oversight.

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DID YOU KNOW?
PILE DRIVING AND EXTRACTING

Pile driving and extracting operations require additional checks to ensure components are compatible for the application. For example, an activity has recently experienced an incident where the use of a vibratory pile hammer resulted in a damaged synthetic roundsling. The shock and vibration cycles imparted into the sling from the hammer caused accelerated abrasive wear to the sling. Luckily, the damage was caught early and before failure occurred.

Caution should be used when selecting components used in severe service and duty cycle use applications such as pile driving and extraction. Users must verify that the component manufacturer permits the component to be used for the intended application; the components have adequate capacity; sling protection is provided for protection against abrasion, bearing, and/or cutting; and that all of the manufacturer's specific requirements for use in that application, if any, are followed.

One synthetic roundsling manufacturer requires the use of an additional safety "catch" sling, an increased minimum design factor, a minimum sling length, and increased frequency of inspections when using their slings with vibratory pile hammers/extractors. These additional requirements are not universal and it is incumbent on the user to ensure the components are used in accordance with the required standards (e.g. NAVFAC P-307, ASME B30, and component manufacturer).

WEIGHT HANDLING PROGRAM SAFETY VIDEOS

Accident Prevention provides seven crane accident prevention lessons learned videos to assist activities in raising the level of safety awareness among their personnel involved in weight handling operations. The target audiences for these videos are crane operations and rigging personnel and their supervisors. These videos provide a very useful mechanism for emphasizing the impact that the human element can have on safe weight handling operations.

Weight Handling Program for Commanding Officers provides an executive summary of the salient program requirements and critical command responsibilities associated with shore activity weight handling programs. The video covers NAVFAC P-307 requirements and activity responsibilities.

Mobile Crane Safety covers seven topics: laying a foundation for safety, teamwork, crane setup, understanding crane capacities, rigging considerations, safe operating procedures, and traveling and securing mobile cranes.

"Take Two" Briefing Video provides an overview on how to conduct effective pre-job briefings that ensure interactive involvement of the crane team in addressing responsibilities, procedures, precautions, and operational risk management associated with a planned crane operation,

Safe Rigging and Operation of Category 3 Cranes provides an overview of safe operating principles and rigging practices associated with Category 3 crane operations. New and experienced operators may view this video to augment their training, improve their techniques, and to refresh themselves on the practices and principles for safely lifting equipment and materials with Category 3 cranes. Topics include: accident statistics, definitions and reporting procedures, pre-use inspections, load weight, center of gravity, selection and inspection of rigging gear, sling angle stress, chafing, D/d ratio, capacities and configurations, elements of safe operations, hand signals, and operational risk management (ORM). This video is also available in a standalone, topic driven, DVD format upon request.

All of the videos can be viewed on the Navy Crane Center website:

http://www.navfac.navy.mil/navfac_worldwide/specialty_centers/ncc/about_us/resources/safety_videos.html.

SHARE YOUR SUCCESS

We are always in need of articles from the field. Please share your weight handling/rigging stories with our editor nfsh_ncc_crane_corner@navy.mil.