THE CRANE CORNER

Dec 2019
104th Edition

Navy Crane Center Technical Bulletin

http://www.navfac.navy.mil/ncc

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Inside this issue:

A WORD FROM TOPSIDE

Tim Blanton

We are nearly halfway through FY20 and the Navy's weight handling program is off to a good start with regard to accident severity. In FY19, after a dismal start, I challenged you to help me reverse the negative trend as we were experiencing record highs with regard to the percentage of accidents that were significant, as defined by NAVFAC P-307, along with a decline in near miss reporting. The Navy finished the year in much better shape than we started and were able to get the accident severity rate down to 25 percent. You have continued that improvement into FY20 as the accident severity rate dropped to as low as 16 percent after the 1st quarter and is currently at 20 percent. Similarly, near miss reporting is up, which as you know, strong near miss reporting, coupled with a strong operations monitor program, is a proven recipe for driving down accident severity.

Without losing focus on FY20 accident severity gains, I posed the following question to my managers, so where do I challenge the Navy's weight handling program next? The answers boiled down to two areas: 1) contractor crane oversight and (2) the identification of lower threshold accidents.

Contractor Crane Oversight – Contractor crane oversight is still a strong area of concern, and at times can pose significant risk to personnel and Navy property. Some of the Navy's most serious weight handling accidents occurred during contractor crane operations. Despite bolstering contractor crane oversight requirements in the 2016 revision to NAVFAC P-307, contractor crane accident severity still remains high, with seven of the ten reported contractor crane accidents categorized as significant. Unfortunately, to date, only six contractor crane near misses have been reported, all primarily by Naval Facilities Engineering Command (NAVFAC) weight handling program personnel during observation of contractor crane operations. Unlike the Navy's weight handling program, little lower level data (near misses, tangible monitor findings) are available for contractor operations. In order to improve in this area, contractor crane oversight personnel, contracting officers, and weight handling professionals are needed to prompt contractors to submit near miss events, which can be as simple as documenting the event and listing immediate corrective actions that were taken once the near miss was identified.

Lower Threshold Crane Accidents – Some of you have likely heard the term "lower threshold crane accidents" during one of our many weight handling program evaluations. As you are aware, the Navy's weight handling accident definition is very broad and includes crane accidents where avoidable contact was made with no resulting damage, not even a paint scrape. This event is defined as a lower threshold crane accident. The reason this metric is so important? It is a direct gage as to the health and maturity of your weight handling program.

Unprompted, lower threshold crane accident reporting is looked at very favorably by our evaluation teams and lets us know that your personnel understand the accident definition, stop to gather lessons learned, and report the event so that other activities can benefit from the information gathered. NAVFAC P-307, paragraph 12.1 states, "activities shall promptly investigate all suspected accidents commensurate with the seriousness/severity of the event." I want to reiterate that typically, self-identified lower threshold crane accidents should require very little investigation and minor corrective actions.

We are actively working on the next revision to NAVFAC P-307, which will include the lower threshold accident definition. Additionally, we are evaluating modifying the required corrective actions for lower threshold crane accidents. For example, we may allow, with the supervisor's authorization, the crane team to complete the evolution at hand (e.g., finish removing/installing brows or shore power, compete a stores load, finish component removal/installation) prior to stopping and completing the investigation, as long as the problem causing the initial event is corrected prior to proceeding.

Similar to near misses, our evaluation teams have been pushing the identification and reporting of lower threshold crane accidents for several years now. Although we have made some gains in this area as we are on track for approximately 45 reported lower threshold crane accidents in FY20 as compared to only 30 in 2019, there is further work to be done. Please share the above thoughts with your weight handling program personnel so that we can continue to improve the Navy's weight handling program.

TIP OF THE SPEAR
FIRST QUARTER FY20 EVALUATION SUMMARY

Sixty-three Navy weight handling programs were evaluated in the first quarter and 59 were fully satisfactory. Three programs were marginally satisfactory and one was unsatisfactory. Monitor program issues continued to dominate evaluation items, as this was an item for 56 of the 63 activities evaluated, followed by weak self-assessments, Operator's Daily Check Lists/Operator's Monthly Check Lists (ODCLs/OMCLs) errors, and unsafe crane or rigging operations with 35, 32, and 30 items, respectively, in these categories.

Effective monitor programs result in better recognition of unsafe crane and rigging operations, which in turn result in better recognition of near misses. A recent Navy Crane Center weight handling program brief showed that when near miss reports increase, significant weight handling accidents decrease, which is our common goal for the Navy's weight handling program.

SUMMARY OF PROGRAMS EVALUATED

63 Navy WHE programs were evaluated, 59 were fully satisfactory, 3 were marginally satisfactory, and 1 was unsatisfactory.

SATISFACTORY CRANES

55 of the 57 sample cranes inspected were satisfactory, which meant an outstanding 96 percent satisfactory rate, reflecting solid maintenance programs at service-providing activities.

Reasons for Unsatisfactory Cranes.

Trolley brake air gap was below minimum specification.

Hoist brake air gaps on three of four mobile boat hoist brakes were below minimum specification.

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 – 56 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 – 35 items.

- Operator's Daily Check Lists/Operator's Monthly Check Lists (ODCLs/OMCLs) and simulated lifts performed incorrectly or not performed - 32 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.) – 30 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.) – 23 items.

- Inspection and certification documentation errors – 22 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) – 22 items.

- Lack of (or low number of) lower order crane accident/or rigging accident and near-miss reports – 19 items.

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

- Expired or non-program gear in use or not segregated from in-service gear – 14 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) – 13 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) – 11 items.

- Lack of, ineffective, or insufficient crane replacement/modernization plan – 11 items.

- Rigging gear, containers, brows, test weights, etc., not marked properly or marking not understood by riggers (including illegible marking, mismatched components, SPS vs GPS, pin diameter not marked on alternate yarn roundslings) – 11 items.

- Local WH instruction/SOPs non-existent or inadequate – 7 items.

- Crane marking issues, including hand signals not posted, monorail tracks not marked with rated capacities, directional signs not marked on crane, crane capacity incorrectly marked, hook not prominently identified, electrical equipment not marked per NEC, certification tag not visible to operator, multiple certification dates posted, no indicator that lower limit testing is not required) – 7 items.

- Cranes/rigging gear/crane structures/other section 14 equipment not in the program or lack documentation – 7 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 PPE not utilized, deficiencies not identified, lack of a fall protection plan, bearing clearance checks not performed) – 6 items.

- Electrical disconnect issues (not lockable in open position, access blocked, unprotected exposure to live circuits, did not have required minimum clearance, disconnect switch operated without proper PPE, not identified to equipment, panel not labeled with its voltage, plug disconnect raises PPE questions for loss of power test) – 6 items.

- Tagging issues (illegible or incorrect caution tags, cranes/crane structures with expired certifications not tagged, inspector did not have tag in possession, tag not removed upon condition correction, essentially permanent tags in lieu of more effective solutions, such as removal of obstruction or relocated rail stops, incorrect tag used) – 6 items.

- Damaged equipment found in walk-through – 6 items.

- Unrecognized/unreported accident, near miss, or unplanned occurrence (including damaged gear not investigated for cause) – 5 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) – 5 items.

- Unsafe contractor crane operations or deficient contractor equipment – 5 items.

- Internal audit issues (no audit program, not finding issues, not on schedule, overly thorough-hindering effectiveness, lack depth of analysis) – 5 items.

- Deficient or worn rigging gear (including noncompliant gear) – 5 items.

- Operator's Daily Check Lists/Operator's Monthly Check Lists (ODCL/OMCL) documentation deficiencies (including incorrect form used and pre-completed forms) – 5 items.

SUMMARY OF WEIGHT HANDLING EQUIPMENT ACCIDENTS FOURTH 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 fourth quarter, 74 Navy weight handling accidents (55 crane and 19 rigging) were reported, as compared to 78 for the third quarter. The significant accident rates for crane and rigging accidents remained nearly constant with third quarter percentages (crane significant accident percentage decreased slightly from 29 to 27 percent and rigging significant accident percentage increased slightly from 25 to 26 percent). There were 22 crane collisions, which was the top crane accident type for the quarter and a damaged load crane accident met the OPNAV reportable criteria ($63,000 in damage). Contractor accidents decreased by approximately 25 percent in the fourth quarter as 9 accidents (6 crane and 3 rigging) were reported; however, only 7 contractor near misses (2 crane and 5 rigging) were reported and 3 of the contractor accidents were significant (one injury, one two-block, and one dropped load).

TWO-BLOCK

Two crane accidents were two-blocking events. The main hook of a mobile crane was two-blocked during a training lift, parting the cable resulting in the block falling to the ground. A category 3 bridge crane was found two-blocked during the crane operator's daily pre-use check.

Lessons Learned: The mobile crane two-block could have been catastrophic (the last Navy weight handling fatality was caused by a two-block event similar to this one). Personnel on-site were not attentive to all facets of the job and supervision by senior personnel was inadequate. In addition, personnel conducting the training were junior personnel.

The investigation has not yet identified why the anti-two-block switch did not perform as designed as the original equipment manufacturer (OEM) is still evaluating the switch. Additionally, the cost associated with this accident has not been finalized by the activity to determine whether it meets OPNAV classification requirements. Personnel must ensure all safety devices are operational and observers are in place and ready to perform as trained. For the category 3 crane, the activity's investigation determined that the limit switch was damaged due to the hook being stowed into the upper limit switch at a high rate of speed. Operators should never stow the hook block in the upper limit switch unless needed and the OEM or activity instruction allows this and provides instructions on how to do it properly (e.g., approach to limit switches is required to be performed at slow speed).

INJURIES

Four injuries were reported, two crane and two rigging. While removing rigging gear from a crane hook, a worker's hand was pinched between a lifting ring and the crane hook causing a fracture to one finger. A worker's hand was injured when a wire rope being reeved on a mobile crane's hoist drum pulled loose from the pulling tether and struck the worker's hand. A rigger was injured when an electric motor shifted in the rigging causing the rigger to be wedged between the motor and ship structure. A worker suffered a first-aid injury when an electrical breaker being removed from an electrical panel slipped from the lifting device and struck the worker on the forehead.

Lessons Learned: A recurring trend as two of these injuries occurred as a result of personnel placing their hands in pinch points and another was the result of placing their body in a pinch point (additionally, the load was not secured in the rigging allowing the load to shift). The breaker injury resulted from the hook not being moused or latched and a strongback rolled out of the hook. Body positioning should be discussed at all briefings and present on the workers' minds while performing crane lifts or rigging operations to prevent injuries in the event unforeseen circumstances affect the job.

OVERLOADS

Seven overload accidents were reported, six crane and one rigging. A contractor's mobile crane was overloaded while attempting to lift a forklift shipboard. During gas management crane lifts aboard ship, the sill adapter became bound and overloaded two slings causing them to part. A category 4 crane was overloaded during a third party load test. A category 3 crane was overloaded during maintenance operations checks. A crane operator inadvertently pressed the south button versus the down button causing a load to move south and off its leveling feet resulting in an overload. A strongback was overloaded when the shipping crate lifted with the load. Riggers overloaded a forklift mounted telescoping lift fixture during removal of a rocker arm assembly.

Lessons Learned: The gas management lift accident has occurred multiple times over the years due to personnel not executing binding controls and not utilizing chain hoists in conjunction with load indicating devices. History has shown that these requirements are necessary to ensure gas management lifts are safely performed. Additionally, each state can play a role in these events and activities must push back on schedule (production) pressure when conditions are not ideal. Four of the other overloads occurred because personnel did not verify weights prior to performing the lifts. One of the overloads could have been averted if the operator looked at the controller prior to depressing the button to ensure the correct function was being engaged. The last overload resulted from personnel not verifying all obstructions had been removed from the crate prior to lifting the component out of the crate.

DROPPED LOADS

Six dropped load accidents were reported, four crane and two rigging. While lifting a table with a bridge crane, the load dropped due to nylon slings being severed. An unsecured shackle pin fell from the bail of a shackle while rigging gear was craned from the top of a building. The hand wheel on a hatch cover was damaged when a hold back failed allowing the hand wheel to fall striking the deck. While rigging a component from inboard of the hull to transfer outboard, the inboard swivel hoist ring (SHR) failed resulting in damage to the SHR and a dropped load. During hoisting of a component from a container using a handling tool, the component dislodged from the handling tool and dropped into the container. The locking pin assembly on the handling tool separated from the handling tool during crane operations.

Lessons Learned: The table dropped load could have been averted if personnel had used proper sling protection. A contributing factor was non-rigging personnel rigged the load; however, they did not perform as trained. The unsecured shackle pin could have easily been averted. The lift of an HVAC unit onto a roof was completed and the crane was signaled to return the rigging gear to the ground. The crane team did not screw all of the shackle pins back into the shackle bodies and one pin fell out from a height of over 40 feet. In the case of the handling tool and locking pin dropped loads, these lifts were performed in areas, which limited visual inspection (items wrapped in poly material) and these accidents were due to component failure (material deterioration) and incomplete component assembly per a drawing. Personnel must inspect all components to the maximum extent possible prior to lifting to ensure lift integrity. The two rigging dropped loads occurred due to personnel not following established procedures. Procedures are written to utilize best practices and to maximize safety; however, if not followed, accidents can and have resulted.

NEAR MISSES

Activities reported 89 near misses (72 crane and 17 rigging) in the fourth quarter, as compared to 106 in the third quarter. On a positive note, yearly near miss totals rebounded from a poor first quarter; however, more improvement can be made. Historically, during times of holidays, summer breaks, etc., totals tend to wane due to limited personnel participation; however, dangers always exist in weight handling and activities should be active during these periods to increase oversight and look for poor practices and deficiencies that lead to significant events. During the fourth quarter, NAVCRANECEN started issuing Weight Handling Program Briefs (WHPBs) to recognize activities that are actively looking for and reporting near misses to help mature their programs. Some of the activities identified near misses that if not identified would have resulted in personnel injuries, dropped loads, and overloads. A few good examples include the following: a potential overload was averted when the riggers identified that the information provided to lift a forklift was incorrect; a rigging gear overload was averted when the supervisor recognized that a master link in the rigging gear did not have an adequate capacity for the lift, the rigger-in-charge positioned himself in a blind spot of the crane operator during a lift; and while tensioning the crane rigging, a forklift's counterbalance was noted to be loose and the lift was stopped.

SAFETY RECOGNITION

Activities that have developed robust monitor programs typically also report a higher number of near misses, which together, have a direct effect on reducing significant events and the severity of those events that do occur. As a result, NAVCRANECEN has recently implemented a new policy of issuing letters of recognition to those activities with strong near miss reporting. The focus of this initiative will be to recognize activities who display proactive identification of near misses (good catches) during their weight handling operations.

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. As identified earlier, the significant accident rate has not decreased as much as we would like to see and we need your help to lower this number. Trending of activity monitor data is necessary for activities to identify negative trends that affect their weight handling programs. Waiting for NAVCRANECEN to identify trends as a result of accident data reviews is reactive and does not provide the feedback you need to arrest declining operational trends. Participation in the monitor program by weight handling program managers and supervision is required by NAVFAC P-307; however, activities should continue to encourage all weight handling program personnel (maintenance, inspection, and test personnel, operators, and riggers) to participate in this process.

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 237 – POTENTIAL DEFICIENCY OF CF MODEL HARRINGTON HOIST

1. Background:

A. The purpose of this Crane Safety Advisory is to inform activities of a known deficiency with certain CF model hand chain hoists from Harrington Hoists, Inc. Harrington has issued an important product issue notification to inform customers of the potential risk that the identified hoist may not hold a load due to improper application of rust inhibitor which may cause the hoist's pawl to fail to engage properly with the ratchet disc.

B. Hoists identified in the product notification were manufactured between 1 March 2019 and 7 October 2019. Hoists affected by this notification can be validated by serial number on the Harrington website at: https://www.harringtonhoists.com/tech_support/CF-Pawl-Search.lasso.

2. Direction:

A. Prior to use, activities shall verify Harrington model CF hoists produce a clicking sound when the hand wheel is rotated in the clockwise direction. If this clicking sound is not present, the hoist shall immediately be removed from service.

B. Within the next 30 days, activities shall review their inventory and identify all CF hoists manufactured in the date range listed in paragraph 1.B. Hoists may either be serviced in accordance with the following instructions on the Harrington website at https://harringtonhoists.com/tech_support/CF-Pawl-video.lasso or by contacting your local distributor or Harrington Product Support at 800-233-3010 for servicing direction.

WEIGHT HANDLING PROGRAM BRIEFS

Weight Handling Program Briefs (WHPBs) 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 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.

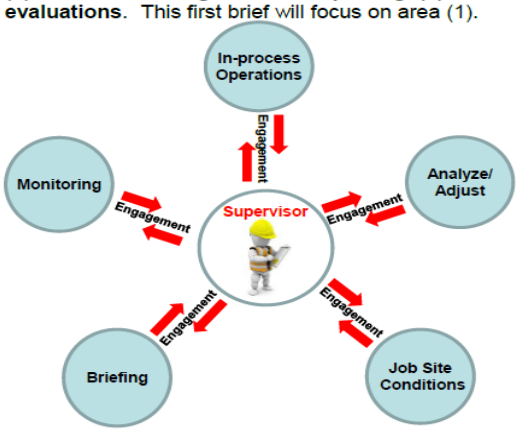
Navy Crane Center point of contact for requests to be added to future WHPB distribution is nfshncc crane corner@navy.mil.

Navy Shore Weight Handling Program Brief

Title: Supervisor Performance - Part 1

Target Audience: Weight Handling Program Managers & Supervisors

Over the past few months, NCC has recognized a trend with regard to supervisory performance. In many cases, the experience level of deckplate personnel (e.g., riggers, operators, and assist trades) and supervisors is low. Just like deckplate personnel, supervisors need on-the-job training and mentoring by more senior supervisors and managers to develop and mature the supervisors' skills. This two-part brief will focus on supervisory engagement in three key areas: **(1) accident investigation and reporting, (2) monitor program performance, and (3) observations during evaluations**. This first brief will focus on area (1).



Accident Investigation and Reporting: In many instances, accident reports dive right down to the event that happened on the deckplate, pier, construction site, etc., basically, they overly focus on what is being perceived as the "real cause" of the problem. **Many reports do not include a discussion pertaining to supervisor engagement.** Some questions to consider during the investigation of an event include:

- Did the supervisor make job assignments?
- Did the supervisor ensure the crane and rigging team had an adequate skill mix and experience for the job?
- Did the supervisor have a good understanding of the job at hand?
- Did the supervisor attend the pre-job or pre-shift brief?

In some instances, the NCC accident branch has identified a lack of adequate supervisor engagement as a contributing cause when warranted. **Accident investigations should evaluate supervisor engagement and comment, either positively or negatively, on the impact to the evolution.**

29 October 2019 | **Navy Crane Center** | *WHPB-19-16*

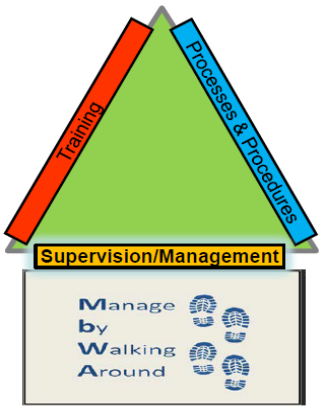
Navy Shore Weight Handling Program Brief

Title: Supervisor Performance - Part 2

Target Audience: Weight Handling Program Managers & Supervisors

WHPB-19-16 identified three areas in which supervisor performance could be improved: **(1) accident investigation and reporting, (2) monitor program performance, and (3) observations during evaluations**. Part 1 of this 2 part series was focused on area (1). Part 2 discusses areas (2) & (3).

Work Model



Monitor Program Performance: NAVFAC P-307, paragraph 2.6 discusses monitor program requirements. At a minimum, **weight handling program managers and supervisors are required to participate in the program** and other personnel involved in the program are highly encouraged to participate. Additional considerations include:

- 1st level supervisors should be among the best at identifying poor practices, deficiencies, and process improvements, and a key supervisory role is the oversight and mentoring of employees.
- Management's role in the monitor program, including second level supervision and above, cannot be understated. Management's focus when conducting oversight should center on the supervisor's performance using aspects of job planning and preparation discussed in part 1, as these aspects are typically absent from observations documented by other program participants.

Observations During Evaluations: Too often, NCC evaluation teams observe lifts and find no supervision or management on-site. We understand that supervisors cannot be at every lift; however, in some instances we observe in-process complex lifts with no supervisory involvement, in addition to undermanned crane teams and crews where there is no supervisory presence or mitigating actions being taken. From our viewpoint, if we see a lack of supervisory presence on the deckplate when everyone knows it's evaluation week, what are we to think happens the rest of the year when we are not on-site? This question is posed not to get you to react differently during our periodic evaluations, but to get you to assess what are your activity's expectations with regard to supervisory oversight during day-to-day weight handling operations in the field.

***Supervision/Management** is a very useful tool and one of three fundamental parts of the **"work model"** (above left). For an in-depth discussion and understanding of the work model, please review the 86th edition (June 2015) of the Crane Corner, pages 15 – 17, at* https://www.navfac.navy.mil/navfac_worldwide/specialty_centers/ncc/about_us/resources/crane_corner/crane_index.html.

5 November 2019 | **Navy Crane Center** | *WHPB-19-17*

Navy Shore Weight Handling Program Brief

Title: Hoist Replacement Standing CAR Revisions

Target Audience: Hoist Procurement and Certification Personnel

Revisions to the Standing Crane Alteration Requests (CARs) for hoist replacement incorporating changes from NAVCRANECENINST 11450.2A are now available on the Navy Crane Center (NAVCRANECEN) website: https://www.navfac.navy.mil/navfac_worldwide/specialty_centers/ncc.html

CAR Number	CAR Title
N3258A-19-004	Replacement of Manual Chain Hoists and Hoist / Trolley Units
N3258A-19-005	Replacement of Pneumatic Chain Hoists and Hoist / Trolley Units
N3258A-19-006	Replacement of Pneumatic Wire Rope Hoists and Hoist / Trolley Units
N3258A-19-007	Replacement of Electric Chain Hoists and Hoist / Trolley Units
N3258A-19-008	Replacement of Electric Wire Rope Hoists and Hoist / Trolley Units

Replacement hoists meeting **ALL** of the requirements of the applicable standing CAR may be submitted via local crane alteration to NAVCRANECEN; otherwise, hoists that do not comply with the standing CAR shall be submitted to NAVCRANECEN for approval. NAVFAC P-307, paragraph 6.2.2 provides additional guidance on the use of standing CARs.

Hoist replacement standing CARs do not apply to the following applications:

- Capacities of 20,000 lbs or greater
- Ordnance Handling
- Hazardous Area Applications per NEC
- Hoists Utilizing Microprocessor Controls
- Special Purpose Service
- Molten Metal
- Precision or Synchronized Lifting

13 November 2019 **Navy Crane Center** *WHPB-19-18*

Navy Shore Weight Handling Program Brief

Title: "Good" Crane and Rigging Near Miss Reports

Target Audience: Weight Handling Program and Crane Oversight Personnel

During recent weeks, numerous "good" near misses have been submitted which help prevent accidents. NCC continues to stress the importance of identifying and reporting "good" near misses which can be used for lessons learned at all activities. Well done (Bravo Zulu) to the following activities that identified these recent near misses:

- **NAVSURFWARCENDIV Dahlgren** - Activity personnel stopped crane movements when they identified newly installed building fans were placed in the crane path creating a condition where the hoist block or hoist wire rope could make contact during operation.
- **NAVFAC MIDLANT** - Personnel were stopped from lifting a storage box that was suspended from the basket of an aerial work platform.
- **TRF Bangor** - A wire rope sling caught on the ear of a pallet and the hoist was stopped prior to snagging the pallet.
- **Portsmouth Naval Shipyard** - A lift was stopped when observers identified that lifting and handling standards to lift a lathe were not being used.
- **NAVFAC NORTHWEST** - During a pre-job brief it was identified that if the lift was allowed to commence then the rigging attachment point would have been overloaded.
- **NAVSHIPREPFAC Yokosuka** - Shipboard removal of a cylinder head was stopped due to a improperly installed lifting clamp and incorrect lashing/ rigging gear use.
- **SOUTHWEST REGIONAL MAINT CTR** - While testing of a crane trolley, the lift was stopped when it was noticed that one leg of two legs on the lift platform sling was not properly attached to the test load.

11 December 2019 **Navy Crane Center** *WHPB-19-19*

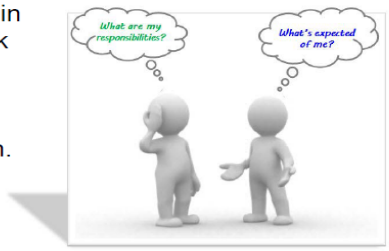
Navy Shore Weight Handling Program Brief

Title: Safe Weight Handling Operations

Target Audience: Weight Handling Program and Crane Oversight Personnel

Recently, within a span of 24 hours, two unfortunate weight handling accidents occurred that sent personnel to the hospital for injuries. As the 2019 holidays are progressing, it is imperative that personnel practice good ORM principles and always ask the questions "what can hurt me or my teammates" and "is this the safest way to perform the task".

- Event - A machinist was struck on the hard hat when the load chain of an air hoist fell 50' and struck the employee hard enough to crack the hard hat. The chain spilled out of the top of the bag meant to contain the load chain.



- Event - A rigger suffered a broken leg when a load slipped out of the rigging gear (choke) and struck the rigger. Make sure the load is constrained from falling at all times.

Please remain alert and have a safe holiday season!

11 December 2019

Navy Crane Center

WHPB-19-20

Navy Shore Weight Handling Program Brief

Title: WORKING UNDER A LOAD OR IN THE FALL ZONE

Target Audience: ALL WEIGHT HANDLING PERSONNEL

DO NOT work under the load or stand in the fall zone as shown above!

FALL ZONE

The area in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident.

Recently, three personal injuries occurred as a result of dropped loads during weight handling operations.

- Dropped load accidents have the potential to result in serious injuries and substantial material damage/costs. There have been nine reported dropped load accidents in FY20, including three that resulted in injury.
- The weight handling community must recognize the serious potential and be vigilant in keeping personnel from under loads. This brief serves as a reminder that dropped loads can and do occur. It is your job to minimize the potential by following established standards and requirements.

Supervision, management, and oversight personnel must reinforce to their personnel to not get under or reach under suspended loads!

- Personnel shall remain clear of the fall zone except when actively engaged in rigging or unrigging the load or when the load is being attached to or removed from another object. Once the load is hoisted, rigging personnel shall stand clear of the fall zone.
- There are times when it may be necessary for personnel to reach under a static (not in motion) suspended load for a short duration to install or remove coverings, make attachments, position supports, etc. In this case, the only body parts allowed under the load are the arms and hands. However, these exceptions should be avoided if there are any other alternatives such as setting the load in a stand, the use of tooling, etc. See NAVFAC P-307, paragraph 10.8 for specific requirements.

9 January 2020

Navy Crane Center

WHPB-20-01

Navy Shore **Weight Handling Program** Brief

Title: "Good" Crane and Rigging Near Miss Reports

Target Audience: Weight Handling Program and Crane Oversight Personnel

During recent weeks, multiple "good" near misses have been submitted which help prevent accidents. NCC continues to stress the importance of identifying and reporting "good" near misses which can be used for lessons learned at all activities. Well done (Bravo Zulu) to the following activities that identified these recent near misses:

- **PWD Pensacola** – A lift was stopped when the expected weight of the load was exceeded due to binding, which prevented overload condition.
- **TRF Bangor** – A rigging evolution was stopped when it was identified that two turnbuckles supporting the overhead monorail system were loose.
- **Portsmouth Naval Shipyard** – While lifting a test weight, two additional weights began to lift due to the weights being frozen to the rigged test weight creating the risk of a dropped load.
- **NAVFAC Southwest** – A lift was stopped when it was discovered that complex lift requirements to ensure crane capacity was not exceeded were not adequately implemented.
- **NAVSHIPREPFAC Yokosuka** – While drifting a component between chain hoists, it was identified that a side loading condition could have resulted in excessive stress on the gear.
- **NAVFAC NORTHWEST** – A lift was stopped when it was determined that the weight of the rigging gear was not included in the lift calculation and would have overloaded the rigging gear.

16 January 2020 **Navy Crane Center** *WHPB-20-02*

ANNOUNCEMENT OF UPCOMING REVISION TO NAVFAC P-307 WEIGHT HANDLING PROGRAM MANAGEMENT

1. The purpose of this message is to announce an upcoming revision to NAVFAC P-307 and to encourage activities to submit recommendations for revisions and improvement.

2. Navy Crane Center will be developing a revision to NAVFAC P-307 for publication in 2021. As part of the revision process, Requests for Clarification, Deviation or Revision approved since the last revision, Crane Safety Advisories, and Equipment Deficiency Memoranda will be reviewed for incorporation. Known areas for improvement will be revised and industry and consensus standards will be reviewed for updates. Additional areas targeted for revision include potential reliability-based maintenance/ condition-based maintenance allowances, articulating boom crane load testing, and a potential incorporation of NAVSEA 0989-030-7000 as an appendix. There will be multiple opportunities for activities to comment on the proposed revision later in 2020 and 2021.

DID YOU KNOW?

Working on or around cranes in a wide range of facilities and locations can have many hazards, and various safety measures are taken to mitigate possibilities of injury and collisions. Commonly used methods to alert people of operations around the crane envelope are spotters/guards, physical barriers, and audible horns or sirens. Even with these precautions, accidents still happen within the crane envelope from disregard of warnings, functional issues, or human error. Operators might not have proper vision of the crane envelope and load from other objects, or miscommunicate with spotters. People might drown out and ignore audible alarms from a combination of being used to the beeping and having hearing protection, or walk through openings in barriers without knowing. To supplement and improve on existing warning devices, overhead warning spotlights may be beneficial.

These warning spotlights most likely would not take the place of the other safety provisions, but they provide a different visual stimulus relative to the movement of the crane or suspended load unlike a stationary barrier. The spotlights are adjustable, easy to mount, and can be configured in single point or multiple formations to fit the type of working environment. Single lights can show the position of the hook over the floor or load to give operators a reference. Multiple lights can convey leading and trailing boundaries of the crane or suspended load. There is also an attachment to the spotlight to display lines rather than points, which can better define safe zones on the ground below moving cranes. The spotlights are visible from up to 100 feet high, and the lines from the attachment can show up to 30 feet down or out.

The system is relatively inexpensive ranging from a few hundred dollars for a single spotlight, to a couple thousand dollars for four spotlights and power supplies.

Many areas of industry already have these warning spotlights in use, such steel or aluminum manufacturing plants and storage warehouses. As such, the warning spotlight system might be a viable option to consider within Navy Activities to improve safety.

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.

HOW ARE WE DOING?

We want your feedback on the Crane Corner.

Is it Informative?

Is it readily accessible?

Which types of articles do you prefer seeing?

What can we do to better meet your expectations?