THE CRANE CORNER

Navy Crane Center Technical Bulletin

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A WORD FROM TOPSIDE

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NAVY SHORE ACTIVITY WEIGHT HANDLING PROGRAM PROGRESS REPORT FY03

In FY03, 185 Navy shore activity weight handling equipment (WHE) accidents were reported to the Navy Crane Center (NCC). This represents a 39 percent reduction from our baseline year of FY99. Combined significant accidents of personnel injuries, dropped loads, two-blockings and overloads continued to be a relatively small percentage of total accidents. Only one accident met the threshold for reporting to the Naval Safety Center. To maintain our focus on safety, we have a very rigorous crane accident definition that includes essentially any unplanned event in a weight handling evolution whether or not injury or damage occurs, using the basic strategy that all accidents (regardless of severity) must be reported to ensure we benefit from the lessons learned.

While this record is good, especially in light of the increased tempo of weight handling operations in FY03 due to world events, there remains room for significant improvement. Human error accounted for 95 percent of the accidents last year. Using effective operational risk management principles, as prescribed in OPNAVINST 3500.39, should help drive these numbers down. Quarterly weight handling equipment accidents summaries provide important lessons learned for significant accidents.

Contractor crane accidents are still a serious problem. As in previous years, most of the contractor crane accidents reported were serious and included a collapsed boom, a tipped crane, two other overloads, four dropped loads, and three serious injuries. We must have thorough reviews of contractor critical lift plans and effective surveillance of contractor crane operations by knowledgeable personnel. This is essential if we are going to reverse this trend.

NCC audits in FY03 found 80 percent of shore activity weight handling programs substantially in compliance with NAVFAC P-307. This is the sixth straight year of improved performance from our baseline year of FY98 when 19 percent were in substantial compliance. Some activities still have serious deficiencies and should seek assistance from activities with successful programs or from NCC.

In FY03, 24 percent of audit sample cranes were unsatisfactory. This is the sixth straight year of continuous improvement from our baseline year of FY98 when 48 percent of the audit sample cranes were unsatisfactory. Deficient brakes accounted for 26 percent of the unsatisfactory cranes. Establishing safe brake setting ranges and improved knowledge of brake adjustments should reduce these occurrences. Load test deficiencies accounted for 9 percent of the unsatisfactory cranes, with problems relating to incomplete testing or insufficient test loads. Many load test deficiencies involved mobile cranes. NCC distributed a mobile crane load test video in FY02 to highlight proper load test procedures. This video is available from http://dodimagery.afis.osd.mil/. PIN is 806634.

Inside This Issue

Activity rigging programs showed improvement overall, however, the audit teams found rigging program deficiencies at 85 of the 131 activities audited. A significant number of deficiencies involved slings, in particular synthetic slings. In addition to FY03 crane accident information under crane safety, a complete review of FY03 unsatisfactory crane results and other audit findings can be found in our audit report at our web site, http://ncc.navfac.navy.mil/.

Although shore activities have made significant progress in reducing WHE accidents in the past five years, I ask all activity commanding officers and weight handling managers to apply the initiatives outlined by the SECNAV on reducing mishaps and establish a goal of further reducing WHE accidents by 50 percent by the end of FY05. With commitment from activity leadership, this goal can be achieved. In addition to working hard to achieve this near term 50 percent accident goal, all of us should continue to strive for our ultimate goal of zero crane accidents. Each accident diminishes support to the fleet. A safe and reliable Navy weight handling program is essential for fleet readiness.

CRANE SAFETY FOR THE NEW YEAR

Historically, January has been a bad month for Navy weight handling equipment accidents. Typically, crane operation tempos pick up after an extended holiday break. The combination of an increased lifting and handling tempo following extended leave very likely contributes to the high number of accidents in January. Navy Crane Center sent a reminder at the beginning of January 2003, yet 20 accidents occurred in that month. This number was higher than any other FY03 monthly total except October.

With the coming of the new year, all weight handling managers must intensify emphasis on crane operation safety as crane teams return from leave and pick up the pace of lifting and handling operations. Last year 95 percent of the accidents were attributable to human error. With heightened safety awareness, an ingrained philosophy of operational risk management, and a commitment to safety by all, we can make January 2004 the safest January on record. Share this message with all personnel involved in weight handling operations.

HAVE YOU HEARD ABOUT?

The process of mounting a jib crane on its concrete foundation seems straightforward enough, but obtaining the required accurate bolt pattern may prove to be a difficult task. Small lateral or angular misalignments of the installed anchor bolts can cause a mismatch with the hole pattern of the base plate. The torque applied to a misaligned bolt can result in bolt failure at the nut face, where the maximum stress is concentrated. If an anchor bolt has inadequate surface contact with the concrete, cyclical loading and corrosion can weaken this bond, causing a potential pullout failure of the anchor bolt.

A recently introduced anchor bolt assembly features an engineered design that reportedly compensates for the inherent difficulties of such field installations. The bolt assembly includes an oversized canister and steel housing with a nut and double spherical washer. The canister fit is sufficiently loose to allow 3/16-inch lateral and 2-degree angular adjustment. Additionally, the canister extends below the steel housing so that the bolt can also be adjusted vertically. The vertical adjustability provides the option to temporarily recess the bolt below the surface using a 3/8-inch hex drive and slide the base plate or other component to its mounting position.

The details of this Adjustable Canister Anchor Bolt are depicted in figure 1. This bolt assembly as embedded in the concrete foundation includes a threaded rod inside a plastic tubing with a steel housing near the bottom. The steel housing contains a 2H hex nut and self-aligning double spherical washer. Another 2H hex nut with a self-aligning double spherical washer is used to secure the equipment at the upper (protruding) end. The threaded rod conforms to ASTM A193, grade B steel with a tensile strength of 125 ksi with rolled threads and, according to the manufacturer, the loss of preload from seating or relaxation is greatly reduced since the entire bolt length is free to stretch.

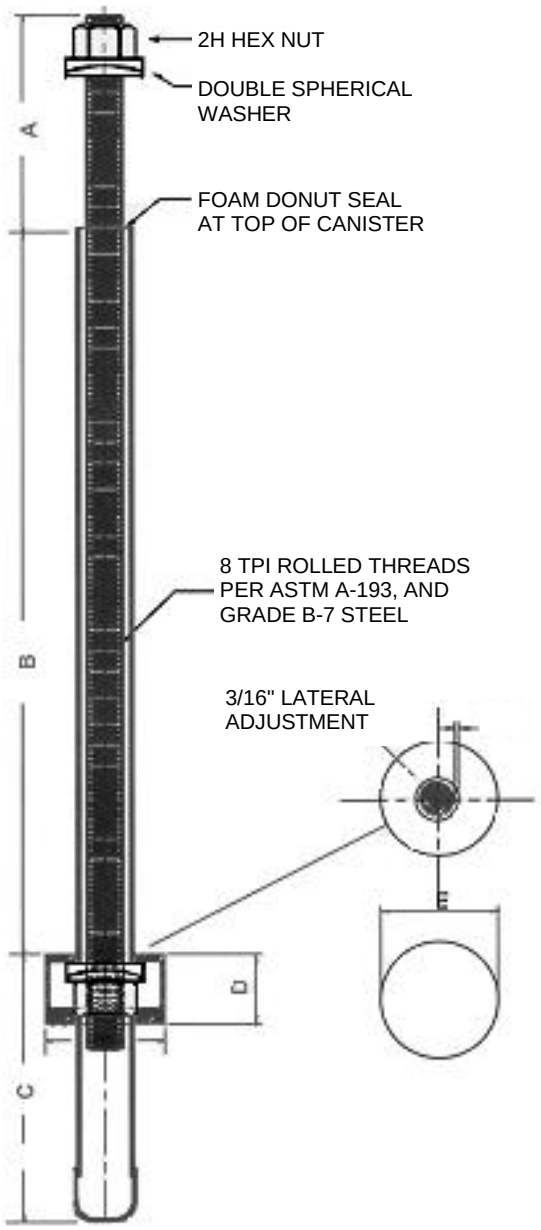

FIGURE 1 - Adjustable Canister Anchor Bolt®

STANDARD DIMENSIONS FOR CANISTER ANCHOR BOLT

SIZE	A	B	C	D	E	Capacity*
1”	0-6”	18”	10”	2 1/2”	5”	50,000
1 1/8”	0-6”	24”	10”	2 5/8”	5”	67,000
1 1/4”	0-7”	30”	11”	3”	5”	84,000
1 3/8”	0-8”	39”	12”	3 1/8”	5”	104,000
1 1/2”	0-9”	48”	13”	3 1/4”	5”	125,000
1 3/4”	0-12”	54”	17”	3 3/4”	5”	174,000
2”	0-14”	60”	21”	4”	5”	232,000

*Based on grade B-7 published data and using 80% of 105,000 PSI yield strength (125,000 PSI tensile strength) in pounds. Actual pullout strength may vary depending on the quality of the concrete and the steel reinforcement.

The purpose of this column is to highlight new and innovative products. The information provided has been extracted from the manufacturers literature and does not necessarily represent the views or opinions of the Navy Crane Center nor does the Navy Crane Center endorse the products that appear in this column.

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MOBILE CRANE SAFETY VIDEO

In early January 2004, we will be distributing to each activity that owns or operates mobile cranes, the video, *Mobile Crane Safety*, which we developed in partnership with the Naval Media Center and Public Works Center San Diego.

As the video notes, mobile cranes comprise 8 percent of the Navy's crane inventory but they are involved in almost 40 percent of the crane accidents reported to NCC. Of the various types of cranes in our inventory, mobile cranes are unique in the risks they present. For example, more than half of the accidents occurred without a load on the hook. In addition, the majority of the serious accidents reported involved mobile cranes. Clearly, mobile crane operation is one area where improved awareness of all potential hazards and better decision making should have a high payback in terms of both the number and the severity of Navy shore activity crane accidents. This video 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. All mobile crane team personnel and their supervisors will benefit from viewing this video.

Although this video is primarily intended for operations with Navy-owned cranes, it provides information that is useful for contractors who operate mobile cranes at Navy shore activities.

NCC VIDEOS

Accident Prevention

Seven crane accident prevention lessons learned videos assist activities in raising the level of safety awareness among their personnel involved in weight handling operations. The target audience for these videos is 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. Request these videos by e-mailing m_lstr_ncc_ccorn@navy.mil.

Weight Handling Program for Commanding Officers

"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. The video is available at http://dodimagery.afis.osd.mil/ (DAVIS/DITIS) (PIN 806467).

Mobile Crane Load Test

"Load Testing Mobile Cranes at Naval Shore Activities" provides load test personnel guidance on properly testing mobile cranes per NAVFAC P-307. The video is available at http://dodimagery.afis.osd.mil/ (DAVIS/DITIS) (PIN 806634).

Mobile Crane Safety (Available in January 2004)

"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. The video is available at http://dodimagery.afis.osd.mil/ (DAVIS/DITIS) (PIN 806721).

CRANE SAFETY ADVISORIES

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) A CSA is a directive and often requires feedback from the activities receiving the advisory.

CSA-121A: Microprocessor Failure On Avtron Addvantage 32.
CSA-123: Crosby Group Inc 15-Ton Shackle Pin Deformation.

CENTRAL MANAGEMENT OF ANCILLARY EQUIPMENT AND CONTROLLED DISASSEMBLY RE-ASSEMBLY PROCEDURES

NCC has recently centralized approving authority for Ancillary Equipment Procedures (AEP) and Controlled Disassembly Re-Assembly Procedures (CDRP) to the In-Service Engineering (ISE) Division. NAVFAC P-307, paragraphs 3.5.2 and 3.5.3, require NCC approval for both of these types of procedures.

As part of the procedure review and approval process, ISE will be looking for specific attributes of the procedure. These attributes include:

- The procedure is developed according to OEM instructions, NAVFAC P-307, and other applicable directives and procedures. ISE will compare the procedure to OEM instructions and previously approved CDRPs or AEPs, if available, for identical components and cranes.
- The procedure identifies the crane manufacturer, crane type, crane capacity, the crane number, model number, and serial number.
- The procedure is developed using step-by-step instructions with appropriate sign-offs in the procedure to ensure that in-process inspections are performed, and that critical evolutions and appropriate test requirements have been completed.
- The certifying official has approved and signed the procedure.
- For AEPs, an on-site review by an NCC representative may be required. Exceptions to the on-site review will be considered when the review has been previously completed for an identical procedure, where minor changes have been made to a procedure that do not affect the overall scope of work, or where an alternate method, such as videotaping the procedure could be used.

To aid in a timely procedure review and approval process, activities are encouraged to forward applicable OEM instructions or previously approved AEPs and CDRPs along with the procedure. For AEPs, it is especially important that activities' perform the step-by-step procedure as part of the activity review and to coordinate in advance with NCC for the on-site review of the procedure. Procedures can be sent electronically to: m_lstr_ncc_csa@navy.mil or faxed to: (757) 396-1772.

Once the review is complete, the ISE reviewer, the NCC representative for the on-site review, if required (for AEPs only), and the ISE approver will sign the NCC approval sheet. The signed approval sheet will be forwarded, along with the applicable procedure, to the submitting activity. ■

CRANE HOOK AND NUT NDT QUALITY ASSURANCE REQUIREMENTS

NAVFAC P-307, appendix e, paragraph 1.4.4 provides nondestructive test (NDT) quality assurance requirements for hooks, retaining nuts, and/or eye pins. These requirements include provisions that the commercial NDT vendor supply a letter certifying that the vendor meets the requirements of ASTM E-543 and that the vendor develop and submit for review, procedures that are specific to the types, shapes and sizes of the parts being examined. For the magnetic particle inspection (MT) method, the procedures shall adequately describe the orientation of the hook, nut, or pin with the magnetizing equipment. Additionally, a level III examiner who is independent of the vendor and is certified in the applicable NDT method shall review the procedures.

NCC has received letters of compliance to ASTM E-543 and MT procedures from two hook manufacturers. NCC has had the MT procedures reviewed by an independent level III examiner and the procedures have been found to be in agreement with NAVFAC P-307 requirements. NCC will retain this documentation per NAVFAC P-307.

Activities that receive hooks and hook nuts with initial NDT reports from the Crosby Group or Gunnebo Johnson are not required to obtain letters of conformance or MT procedures from these vendors since NCC retains these documents. Activities are required to retain hook and hook nut NDT reports in the equipment

history file per NAVFAC P-307. Initial NDT reports received from Crosby or Gunnebo Johnson, subsequent to the issuance of this policy, shall specifically reference the applicable vendor NDT procedure. For the Crosby Group, the NDT report shall reference Crosby quality control procedure 0120, revision 16 and technique sheet 319N, revision 1. For Gunnebo Johnson, the NDT report shall reference Gunnebo Johnson quality system procedure QSP-69, revision A.

When NDT of the hook is required, activities are reminded that purchase orders or contracts should clearly state that the NDT of hooks and hook nuts be per NAVFAC P-307. Crosby and Gunnebo Johnson have indicated that the applicable MT procedures will only be invoked when NDT per NAVFAC P-307 is specified on the purchase order or contract.

NCC will contact other hook vendors and invite them to submit NDT procedures for approval to the requirements of NAVFAC P-307. Any questions concerning NDT quality assurance requirements should be directed to NCC.

FOURTH QUARTER FY03 ACCIDENT REPORT

The Navy Crane Center (NCC) disseminates crane accident lessons learned to prevent repeat accidents and improve overall crane safety. NAVFAC P-307 requires commands to submit to the Navy Crane Center (NCC) a final, complete accident report (including corrective/preventive actions) within 30 days of an accident involving Navy-owned weight handling equipment, regardless of severity or type. In addition, contracting officers are required to forward to NCC and the host activity reports of all contractor accidents regardless of severity.

For the fourth quarter of FY03, 43 Navy and 8 contractor weight handling equipment accidents were reported. Serious Navy accidents this quarter included 5 injuries, 3 dropped loads, 1 overload, and 3 two-blockings.

INJURIES

Accident: A contractor rigger was injured while working with a Navy-owned and operated category 4 crane to remove an oil separator from the back of a contractor's truck. When the operator started to lower the load to the ground, the rigger reached under the load to remove a piece of pipe in the landing area. During this attempt, the load shifted striking the rigger's head causing a cut that required stitches.
Lessons Learned: When Navy crane teams include contractor personnel it is important to conduct a thorough pre-lift brief to ensure contractor personnel are aware of Navy requirements. NAVFAC P-307, paragraph 10.7, includes special precautions when it is necessary to reach under a suspended load. Crane team members working within the operating envelope around a crane when not protected by a crane cab must wear hard hats.

Accident: A crane team member was injured by a shore power cable that fell approximately 55 feet from a power block supported from a category 4 crane. A power block is a below the hook lifting device designed to raise or lower cable by hydraulically rotating a wheel that bears the weight of the cable. While lowering cable with the power block, a safety guard failed and allowed the cable to fall striking the crane team member. An inspection of the power block revealed that a shaft key was missing, two set screws were not secured and the swivel assembly had been over-torqued. The power block had recently been repaired and modified and was not tested or marked in accordance with reference a. Additionally, the operator of the crane did not have a valid license and the crane team was aware that the power block was not operating correctly.
Lessons Learned: Never use faulty or malfunctioning equipment. All rigging gear and below the hook lifting devices must meet the requirements of NAVFAC P-307, section 14. Supervisors must ensure that employees assigned to operate category 4 cranes are properly licensed.

Accident: While attempting to lift a disposal container lid weighing 500 pounds with a bridge crane, a rigger sustained an injury to a finger. The rigger-in-charge did not notify team members of his plan to raise the hook to remove slack from the rigging and did not maintain visual contact with the load when giving hand signals to the crane operator. As the slack was being removed from the rigging gear, another rigger attempted to adjust the mousing on the hook of a chain ratchet in the rigging assembly. While making this adjustment, the rigger placed a finger in a pinch point and was injured.

Lessons Learned: The rigger-in-charge should notify team members of all crane operations before they begin. The rigger-in-charge should also verify that team members are clear of the load and maintain visual contact with the load during operations. In addition, team members should be aware of all potential pinch points associated with lifts to avoid injuries, and exercise their responsibility to stop the lift if a problem is identified.

Accident: An operator's hand was injured while trying to stop a malfunctioning hand operated hoist from freefalling a load. While lifting a flange from the water, the load was stopped momentarily and the operator released the operating handle. The load immediately began to freefall back into the water. The operator's hand was struck by the rotating handle while attempting to stop the falling load. An investigation revealed that a previous operator had rewound the wire rope on the drum in the wrong direction preventing proper operation of the ratchet pawl locking device.

Lessons Learned: Prior to operating any crane or hoist, the operator must do a pre-use inspection including an operational check.

Accident: A rigger's hand was injured while stowing a two-part boom extension on a mobile crane. The rigger was assigned to work with another rigger and an operator to remove a boom extension and place it in a storage rack on the side of the main boom. During the removal process, it is necessary to retract a section of the main boom to align and connect pins that secure the extension. When the operator retracted the main boom section, the rigger's hand was pinned between the connection points for the first and second sections of the boom extension.

Lessons Learned: When working on or around cranes personnel should be aware of all potential pinch points to avoid injuries. Potential pinch points and other potentially hazardous situations should be discussed during the pre-lift brief.

DROPPED LOADS

Accident: A mechanic was attempting to lift an engine out of a vehicle using a 10,000-pound capacity bridge crane and a 4,000-pound capacity load leveler (a triangular shape below-the-hook lifting device). The load leveler was attached to only one of two lifting eyes at the rear corners of the engine and a lifting eye in the front of the engine. The load leveler was also incorrectly adjusted so that the sling attached to the front of the engine was supporting the entire load. During the lift, the engine oil pan became wedged against the frame of the vehicle preventing the engine from being lifted. The mechanic failed to see the clearance problem and continued hoisting, which overloaded the load leveler and caused the crane hook swivel to break dropping the load.

Lessons Learned: When using below-the-hook lifting devices, it is critical to install and use in accordance with manufacturers instructions. In addition, prior to and during all lifts, ensure that adequate clearance is maintained between loads, rigging gear, and any possible obstructions.

TWO-BLOCKINGS

Accident: While performing an annual load test of the main hoist on a portal crane, the whip hoist was two-blocked. The boom was being lowered with the test load on the main hoist when the whip hoist headache ball made contact with the upper sheave (two-blocking). The whip hoist upper limit switch malfunctioned and crane team personnel failed to stop the boom hoist in time to prevent the two-blocking.

Lessons Learned: Never rely on a limit switch to stop the operation of any crane function. When lowering a crane's boom with hoist blocks in close proximity to the boom, the operator and the rest of the crane team must ensure that a safe distance is maintained between all hoist blocks (or headache balls) and the boom. Remember, load testing cranes in accordance with NAVFAC P-307 is a complex operation. Extreme caution must be observed at all times and all personnel must be observant for any conditions that could affect the safety of the test.

Accident: The whip hoist on a floating crane was two-blocked during troubleshooting to repair a limit switch. The wire rope supporting the counterweight for the whip hoist upper limit switch broke, activating the limit switch, which disabled both the whip hoist and the boom lowering functions. Repair personnel planned to activate the whip hoist limit switch by-pass and lower the whip hoist first, then lower the boom to provide

access for personnel to make repairs. However, due to a poor pre-lift brief and inadequate communication during operations, the operator activated the boom lower limit switch by-pass and controller. Since the whip hoist limit switch was still activated, the boom did not lower. Repair personnel saw that the whip hoist did not lower and thought there was a more serious problem with the crane. It was decided to use a jumper wire to bypass the boom lower limits and lower the boom based on indications that the whip hoist was not operating. The whip hoist hook was approximately 25 feet below the boom and it was thought that there was enough clearance. This time the operator received clear directions and started lowering the boom. When the boom passed beyond a slow speed limit switch, the speed increased and the crane was two-blocked. The incorrect decision was then made to lower the whip hoist to clear the two-block which disturbed the accident scene.
Lessons Learned: When performing any crane operations associated with troubleshooting to correct a problem, all crane team members must be adequately briefed on the procedures, possible hazards, and each member's responsibilities. Clear communication is essential during crane operation including the understanding that any team member can stop operations if there is an indication of a problem. When an accident occurs all operations should be stopped and the accident site preserved. The only exception is when there is impending danger to personnel or equipment.

Accident: The auxiliary hoist on a mobile crane was two-blocked during a maintenance operation when the crane operator inadvertently engaged the wrong control lever. The operator was attempting to raise the boom to assist maintenance personnel but activated the hoist lever instead. Additionally, the operator failed to notice that the load moment indicator was set on travel/rigging mode, which deactivates the anti two-block device.
Lessons Learned: Crane operator supervisors must ensure that operators are familiar with the cranes they are assigned to operate. Operators must remain alert during all types of operations including non-production lifts.

SIGNIFICANT CONTRACTOR WHE ACCIDENTS

Accident: A rigger's finger was broken when it got caught in a hoist block while making a lift. The rigger was signaling the crane operator with one hand and inadvertently placed the other hand on the hoist block. The rigger’s attention was diverted and a finger got caught between the sheaves and the hoist block.
Lessons Learned: Crane team members must stay clear of the load during operations. Never place parts of the body near moving parts and be aware of potential pinch points.

Accident: A member of a contractor crane team suffered injuries to his face and leg after being struck by a demolition machine suspended from a mobile crane. The crane team was attempting to lift the 4,200-pound machine from the ground to the top of a building and lower it through an access hole in the roof of a penthouse structure. The machine was rigged using slings as a cradle instead of lifting using the manufacturer's recommended lifting points. In addition, the machine could not be centered over the hole because the crane was set up too far away and the hook could not reach the radius required to properly make the lift. Three members of the crane team decided to center the load over the hole by pushing it. However, the operator was not consulted or informed of the decision. When the load was pushed, it rotated in the slings and pinned a team member against the penthouse wall.
Lessons Learned: Proper pre-lift planning could have prevented this accident. Establishing the required capacity and radius and then choosing a crane that will meet the requirements is one of the first steps in planning a safe lift. Making a trial lift with no load on the hook would have shown that the lift could not have been made safely. The pre-lift brief must address the importance of communication between all crane team members, address the potential safety hazards and reinforce the crane team concept. Any questions or discussion of rigging methods must also be covered.

Accident: A contractor working on a modular water treatment system made an unauthorized lift using an activity's bridge crane, which resulted in an overload of the crane. The original plan was to lift the item with a hydraulic jack and move it with pipes placed underneath to act as rollers. However, when the hydraulic jack was not available, the contractor decided to use the crane located over the worksite. There were no government employees present when the lift was made. The crane was equipped with a mechanical overload device designed to stop the hoist function if an overload occurred. The device activated during the lift and stopped

operation of the crane. The activity discovered the crane had been overloaded when the contractor foreman stated that the crane had locked out and would not operate.

Lessons Learned: Whenever contractor personnel may be working in the vicinity of Navy cranes, activities should take steps to ensure that their cranes are not operated by unauthorized personnel. Contracting officers must enforce contract requirements and prevent unauthorized use of Navy cranes. Additional methods of preventing unauthorized operation of cranes include: installing locking devices on crane controllers or electrical power disconnect switches, posting signs prohibiting the use of cranes by unauthorized personnel, and requiring contracting officers to monitor contractor operations, which include lifting operations.

Weight handling program managers and safety officials are encouraged to consider the potential risk of accidents occurring at your activity similar to those highlighted above and apply the lessons learned to prevent similar accidents. OPNAVINST 3500.39, Operational Risk Management, prescribes methods for assessing hazardous operations, which should be used in the planning and preparation of all WHE lifts.

E-mail submission of reports of accidents, unplanned occurrences and near misses is encouraged. The e-mail address is m_lstr_ncc_safe@navy.mil. The reports must include a complete and concise situation description, corrective and preventive actions, probable cause and contributing factors, and an assessment of damage. For equipment malfunction or failure include specific description of the component and the resulting effect or problem caused by malfunction or failure.

2004 NAVY WEIGHT HANDLING EQUIPMENT CONFERENCE

NCC will host a weight handling equipment (WHE) conference 4-6 May 2004 in Dallas, Texas. The conference will begin at 0800 and conclude at 1630 each day.

The purpose of the conference is to share WHE improvement practices and safety initiatives as well as to discuss common issues with the goal of further improvements in WHE safety, maintenance management, engineering, rigging, operations and training.

All Navy shore activities and shore-based operational units with WHE are invited to attend and participate. The basic format of the conference will be presentations and selected working group meetings. Action items from the working group meetings will be assigned for subsequent review and resolution.

For planning purposes, request interested activities respond with approximate number of attendees by 31 December 2003. Send responses via email to m_lstr_ncc_confr@navy.mil or fax (610) 595-0749. Indicate in your response if interested in making a presentation on initiatives or issues of particular interest. Proposed agenda items (may include background, discussion, and proposals for improvement) are also welcome. When developed, the agenda along with other conference information will be published on our web site, http://ncc.navfac.navy.mil/.

SHARE YOUR SUCCESS

We are always in need of articles from the field. Please share your sea stories with our editor, (610) 595-0905, fax (610) 595-0748, or e-mail m_lstr_ncc_ccorn@navy.mil.

P-307 QUESTIONS & INTERPRETATIONS

The questions and interpretations listed below are based on crane program issues that arose and Requests for Clarification, Deviation, or Revision, P-307, figure 1-1. They are also listed on our web page, http://ncc.navfac.navy.mil/. Click on P-307 and then on P-307 Questions and Interpretations. The issues are arranged by the applicable section or appendix to the P-307.

Question: Stopping Under Loss of Power. NAVFAC P-307, appendix E, paragraph 6.3 through 6.3.3, "Stopping under loss of power (for cranes without bridge or trolley automatic brakes)," implies that the test items are required regardless of the design or operation of the crane as long as there is no automatic brake. We have several cranes without automatically applied travel brakes but the drive system has a self-locking worm gear. Additionally, several cranes that this paragraph applies to are pendant operated but this paragraph requires posting the applicable instructions in the crane cab.

A self-locking worm gear effectively acts like a brake by preventing items down stream of the drive system from driving the self-locking worm gear in much the same way that a traditional brake would stop the motion of a drive system. Exclusively pendant-operated cranes do not have an operator's cab. Since no operator's cab is available for the posting of applicable instructions, the requirement of NAVFAC P-307, paragraph 6.3.3, cannot be met.

Request to exclude testing cranes in accordance with NAVFAC P-307 when the travel drive includes a self-locking worm gear. Request to allow posting of applicable instructions on the crane pendant instead of the crane cab when the crane is exclusively pendant operated.
Answer: Both requests are approved.

Question: Accuracy Testing of Load Indicators During Biennial No-Load Certification Testing of Category 3 Cranes. The biennial certification load test program allows for category 3 cranes to be load tested every other year unless defects found during off year inspections are associated with components that impact the holding strength of the crane.

A Crane Condition Inspection Record (CCIR), NAVFAC P-307, figure 3-3, is required to be accomplished for certification of category 3 cranes at both the "no-load" and "with load" biennial certification testing years. Item 9 of the CCIR requires inspection of load indicators for condition and working accuracy. Working accuracy cannot be verified without application of a load (test weight) to the crane, which negates the advantages of not having to load test every year. The working accuracy of the load indicators only needs verification when a load test is required for category 3 cranes in the biennial load test program. Request a waiver (deviation) from NAVFAC P-307 requirement to test the working accuracy of load indicators during the certification "with load" test years for category 3 cranes in the biennial load test program.
Answer: Approved.