



Atlantic Division, Naval Facilities Engineering Command

ACCIDENT ABSTRACT

ACCIDENT TYPE: Dropped crane supported load
INJURY: Fatality/Crushed
TYPE OF WORK: Pier reconstruction
EQUIPMENT INVOLVED: Floating Crane
SAFETY EQUIPMENT: Long pants, shirt, safety glasses, and hardhat



DESCRIPTION OF THE ACCIDENT:

A contractor crane was supporting a concrete beam while an employee attached additional rigging under the load. The precast concrete embeds failed causing the concrete beam to fall crushing the employee.

DIRECT CAUSE:

Employee located under a crane-supported load.

CONTRIBUTING CAUSES:

- ◆ Acceptable crane critical lift plan not provided by contractor.
- ◆ Employees under load: Procedural methods chosen for installation of lifting devices allowed for employees to be positioned under the crane supported load. Employee supervision did not recognize the hazard.
- ◆ Contractor procedures not as designed: Original shop drawings showed a Spreader Bar for lifting concrete beams which was not used allowing for additional horizontal forces due to sling angle.
- ◆ Embed bolts overloaded: Embed bolts and nuts were not in accordance with manufacturers instructions and were not installed or designed with the correct safety factor.
- ◆ Nuts for bolted connection to cap embeds not used properly: According to the manufacturer instructions two nuts per bolt were to be used. The contractor installed only one. Additionally, the nuts were designed to be used only one time then discarded. The nuts were used repeatedly.
- ◆ Pad Eye (lifting attachment device) manufactured by contractor: Not in accordance with standards or contract requirements – not proof tested (125%) – not labeled with weight capacity and were damaged/bent.
- ◆ Contract required Contractor Site safety manager: No documentation in Daily reports re: safety actions taken on the site.
- ◆ Contract required Contractor QC Manager: Deficient documentation of quality control actions meetings and Inadequate preparation /planning meetings to include safety for phases of work



LESSONS LEARNED:

At no time should any employee be positioned under any crane-supported load. Critical lifts promulgating a crane critical lift plan and associated planning steps in accordance with EM 385-1-1 include any rigging that may be considered technically difficult or unusual.

CONSTRUCTION MISHAP TODAY=MISHAP PREVENTION TOMORROW