

MNMM Fatal 2009-05

- Machinery Accident
- February 19, 2009 (Puerto Rico)
- Crushed Stone Operation
- Carpenter/Laborer
- 61 years old
- 11 years of experience

Overview

The victim was fatally injured when he was struck by the boom of a crane. The boom collapsed as the crane was lifting a crusher that was being removed as part of a demolition project at the mine. He was hospitalized and died on April 12, 2009, as a result of his injuries.

The accident occurred because the crane was used beyond the manufacturer's design capacity. The total lift exceeded the design capacity of the crane and the two wire rope bridles being used for the lift. The demolition crew failed to accurately determine the total weight of the lift. The crane was used to lift the crusher, but the crusher was not completely detached from its supporting structure. This resulted in a severe loading of the crane's boom. The crane was not properly leveled and oriented to prevent boom side loading. The load chart and boom lacings were not being properly maintained. Additionally management did not provide task training to the victim.



Broken Boom

Root Causes

Root Cause: Management did not conduct a risk assessment to determine the potential hazards or to establish safe work procedures prior to lifting the crusher.

Corrective Action: Management established and implemented procedures that require risk assessments to be conducted that identify and correct potential hazards associated with the task to be performed. Procedures were developed and implemented to ensure the safety of all persons working near the crane by determining the weight of material to be lifted and using the proper load chart to prevent the crane from being used beyond the manufacturer's design capacity.

Root Cause: Management policies, procedures, and controls were inadequate and failed to ensure that all persons were given the required training in all the hazards associated with crane lifts.

Corrective Action: Management implemented a comprehensive training plan that covers all the hazards associated with all the persons performing tasks.

Best Practices

- Prior to attempting a lift, know the weight of the load (including the load block and rigging) and make sure it is less than the crane's lifting capacity for the required reach. Refer to applicable load charts.
- Perform a thorough pre-operational inspection of the crane and rigging components.
- Stay clear of a crane's overhead boom and do not work beneath a suspended load.
- Always be certain that the object being lifted is completely detached from its supporting structure prior to attempting a lift.
- Insure that the crane turntable is level prior to lifting.
- Make sure the load is aligned directly beneath the centerline of the boom to prevent side loading.
- Confirm that the load will not exceed the allowable capacity of the rigging.
- Follow the crane manufacturer's recommendations when making structural repairs and use certified welders.

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