CSI Country Wide Case Study Safety Strategy Discussion

Construction Safety Investigator

Instructions

The objective of this tool is to provide field supervisors with information to proactively engage workers and discuss safety related concerns that they may encounter. Safety discussions should not be limited to the subject above and should pertain to the activities that workers will be involved in that may have the potential for safety related exposures.

Case Day:

March 2008

Accident Type:

Mechanized Equipment - Overturned

Relevant laws, rules and codes may include:

29CFR 1926.20(a)(1), 1926.21(b)(2), 29 CFR 1910.147, Aerial Lift Manufacture's Operating Manual

Case:

A 35 year-old equipment operator was injured when the excavator she was operating overturned and fell into a canal.

Accident Detail:

The injured employee was operating a tracked excavator and was assigned to clean out debris in the water along side of a canal retaining wall, in preparation for its reconstruction.

The excavator was set up parallel to the canal wall, with the operator reaching the boom arm over the side of the machine and down to pick and remove the debris. While using the excavator to remove the debris, the operator swung the excavator's boom arm around to the rear of the machine to drop the debris into to a pile when the machine began to tip.

The operator tried to stop the machine from tipping by moving the boom arm back but it was too late. The machine flipped over, landing in the canal, with the operator inside the cab.

As the as soon as the excavator flipped, coworkers responded by jumping into the water to rescue the operator. The operator was wearing her seatbelt and received a broken arm and shoulder due to the impact. The excavator was severely damaged resulting in a total loss.

Reconstructive Safety Evaluation:

- What are some of the possible causes of the accident being discussed?
- What actions could have been taken that might have prevented this accident from occurring?



Accident Scene Conclusion:

The investigation revealed that the water weight was not calculated into the lift plan when determining the size of the machine to use for the debris removal operation, the excavator was set up too close to the canal retaining wall's edge and there were no emergency rescue provisions made for working over or near water.

Preventive Safety Measures Include:

- All operations are preplanned using a Job Safety Task Analysis (JSTA) to ensure potential safety hazards associated with an
 operation are identified and appropriate steps are taken to eliminate or control them.
- Workers are trained in the hazards of the work they are to perform, the personal protective equipment and safe work procedures necessary to perform their assigned tasks.
- Operators must be aware of the safe working capacities of their equipment when lifting and maintain a margin of safety, including
 taking into account any additional weight added to expected loads by water or other unanticipated materials.
- In addition to load capacity, operations on slopes or other surfaces should be evaluated as well as the extension of the boom which reduces the safe working load.
- Whenever working on or near water, appropriate safety devises such as life jackets, life saving skiff and ring buoys, must be available as well as a rescue plan, in the event of emergency.

Attendance Roster		

Reference: This case is fictitious, and any resemblance to any persons, living or dead, is entirely coincidental. However, the type of accident described in this case summary happens all too often on construction sites.

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