

## **SUBJECT**

A 17-year old laborer for a boat dock construction company drowned while attempting to swim approximately 35 yards to shore from a construction barge.

## **SUMMARY**

A 17 year-old laborer for a boat dock construction company drowned on June 8, 2000 while attempting to swim approximately 35 yards from a construction barge to the shore of the freshwater lake in which the crew had been constructing a new boat dock. The victim drowned in water approximately 15 feet deep after repeated attempts to pull him to safety were unsuccessful. FACE investigators concluded that to prevent similar occurrences, employers should:

- Establish and communicate written policies and work practices regarding all hazards to which employees are actually or potentially exposed.
- Require employees to wear a U.S. Coast Guard-approved life jacket or buoyant work vest whenever working over or near water where the danger of drowning exists.

Figure 1. Construction Barge





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## INTRODUCTION

A 17-year old laborer for a boat dock construction company died on June 8, 2000 while attempting to swim with two other 17-year old laborers approximately 35 yards from a construction barge to the shore of a freshwater lake. The deceased had no previous work history and died on his second day of employment with the company. The FACE investigators reviewed the death certificate, the medical examiner's report, the Occupational Safety and Health Administration fatality/catastrophe report, the Oklahoma Marine Investigation Report, and newspaper clippings. While conducting the site survey on August 3, 2000, the investigators interviewed the owner of the company and the barge captain. Two individuals who witnessed the incident from the shoreline were also interviewed by telephone.

The boat dock construction company had been in business for three years, including approximately one year under the current owner, and employed 20 people at the time of the incident. The typical construction crew consisted of a barge captain, who serve as crew supervisor, and two to three mechanics that assembled each boat dock in shallow water before towing the completed structure to its mooring position. Materials, equipment, and personnel were transported from shore to the construction area on a 40-ft by 12-ft barge that was equipped with a crane and electrical generator. The barge served as a working platform for construction activities. The company did not have a written safety program or written work procedures; however, the employer indicated that both the deceased employee and the barge captain who authorized the attempted swim to shore violated company policy in doing so.

Barge captains were charged by the company owner with responsibility for crew safety and were required to conduct a daily planning session that included work instructions, safety issues, and a check of tools, materials and fuel. The company held weekly meetings that focused on safety. No formal safety training was conducted for new employees. The 40-year old barge captain involved in the incident had 4 years of experience in that job, including 3 months with this particular company.

## INVESTIGATION

The high temperature on the day of the incident was 84 degrees Fahrenheit, and the wind was southerly with an average speed of 8.3 mph and a maximum gust of 17 mph during the day. The crew reported for work at the company yard (an hour and 15 minutes road trip from the construction site) at 7:30 a.m. After approximately an hour delay, they traveled to the lake and proceeded by barge approximately three-fourths of a mile to the construction site where they arrived and began work at approximately 10:00 a.m. The crew was assigned to continue construction of a two-bay dock for which the tubs (dock floatation devices) and frame had been assembled on the previous day. Because two docks were being assembled at the same time, 12 persons were on the job. The docks were being built on-site since the water at the site was shallow and calm. The dock was being constructed in an area that was a 10-minute barge trip from the boat ramp where materials and personnel were loaded for transport to the construction site. The victim's job as a laborer was to hand tools and materials to the mechanics. It was the victim's second day working on this dock.

The crew took a 30-45 minute lunch break, and work on the dock continued until approximately 2:00 p.m. when the barge captain decided to transport the three 17-year old laborers back to the ramp to off-load materials that had been determined to be defective. Due to the defective materials, there was no additional work that they could complete on the dock that day; reportedly the work they had done so far that day had not been strenuous. During the return trip to the ramp, the barge captain stopped for a few minutes to allow the three 17-year old laborers to cool off by swimming in the lake. As the barge approached the ramp area, the captain gave permission to one laborer to swim from near a “no wake buoy” to the shore to shorten the walking distance for retrieving the company truck. A number of people were on the shore at the time of the incident, including participants in a fishing tournament and a work crew constructing a near-by boat dock.

The captain drove the barge approximately five yards beyond a buoy that was approximately 35 yards from the shoreline. The laborer who was given permission to swim and the two other laborers (including the victim) dove into the water as the barge continued on toward the ramp. The victim, who was wearing shorts and high top tennis shoes, was the last of the three to jump in. Although it was reported that there were four life vests on board the barge, none of the three laborers used one. The captain reportedly watched them until they got about halfway to the shore. The three were apparently racing toward the shore, and according to witnesses, the victim was swimming very hard using only his arms. After the victim had been in the water 2-3 minutes and was approximately halfway to the shore, he began to splash the water and call for help. Thinking at first that he was playing, neither co-workers nor anyone from the shore initially attempted to help him. Once convinced that the victim was in trouble, one of the other 17-year old laborers attempted to affect a rescue. He backed away, however, after he was pulled under water by the victim, and he feared being drowned himself. Two of the work crew on the shore entered the water to attempt a rescue. One was wearing heavy work boots and, being unable to remain above the water, was forced to abandon the rescue. The other grasped the victim but was unable to hold him and could not locate him in the water during a second attempt. A third member of the work crew brought a “throw bag” (floatation device) from his truck but the victim was unable to grasp it. One or more individuals on the beach requested emergency assistance by mobile phone, and a highway patrol trooper arrived at the scene within 15 minutes. Two fishermen who witnessed the incident from a nearby boat were unable to arrive at the scene in time to affect a rescue but placed a marker buoy at the point where the victim disappeared. The drowning occurred in murky water that was approximately 15 feet deep with a temperature of 78 degrees Fahrenheit. The victim’s body was recovered almost two hours later and transported to the nearest hospital where the victim was pronounced dead.

## CAUSE OF DEATH

The Medical Examiner listed the cause of death as drowning.

## RECOMMENDATIONS

**Recommendation #1: Employers should establish and communicate written policies and work practices regarding all hazards to which employees are actually or potentially exposed.**

Discussion. Although the employer indicated that the swimming activities that the barge captain authorized and in which the three workers were engaged were a violation of company policy, no written policies or practices were available nor was any objective evidence that the policy had been communicated to the barge captain or the employees. Companies should have a comprehensive safety program, and training should be provided to alert employees that working near water poses a hazard. Working/swimming in water should not be allowed unless it is essential to the job.

**Recommendation #2: Employers should require employees to wear a U.S. Coast Guard-approved life jacket or buoyant work vest whenever working over or near water where the danger of drowning exists.**

Discussion: Although the depth of the water and the distance from the barge to the shore may not have appeared to the barge captain to be a potential hazard, OSHA regulations require employers to provide life preservers when working over or near water where the danger of drowning exists. Employers should ensure that personal flotation devices are available and used whenever employees are working in water of a depth that poses a drowning hazard.

## REFERENCES

29 CFR 1926.106, *Working over or near water*

29 CFR 570, *Child Labor Regulations, Orders and Statements of Interpretation*

*Oklahoma Child Labor Statutes*

The Oklahoma Fatality Assessment and Control Evaluation (OKFACE) is an occupational fatality surveillance project to determine the epidemiology of all fatal work-related injuries and identify and recommend prevention strategies. FACE is a research program of the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research.

These fatality investigations serve to prevent fatal work-related injuries in the future by studying the work environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in injury, and the role of management in controlling how these factors interact.

For more information on fatal work-related injuries, please contact:

Oklahoma State Department of Health  
Injury Prevention Service—0307  
1000 NE 10<sup>th</sup> Street  
Oklahoma City, OK 73117-1299

1-800-522-0204 or 405-271-3430  
[www.health.state.ok.us/program/injury](http://www.health.state.ok.us/program/injury)