

# Abstract of a Mishap

**Mishap Type:** *Crushed by falling steel beam*  
**Injury:** *Fatality*  
**Type of Work:** *Steel Erection*  
**Equipment:** *Forklift & Scissor Lift*

## DESCRIPTION OF THE MISHAP:

- ◆ An approximately 70 foot long steel “I” beam suspended by a nylon sling from a material handling forklift fell on an employee directly under the load working from a scissor lift when the overloaded nylon sling failed (broke).

## DIRECT CAUSE:

- ◆ Failure to plan, evaluate hazards, implement controls, and utilize safe procedures associated with material handling and rigging. Unauthorized modification in the use of forklift with a weight handling sling to suspend an “I” beam during steel erection.

## INDIRECT CAUSE:

- ◆ Supervision: The lack of employee operations being supervised. The Prime contractor superintendent, Site Safety & Health Officer (SSHO), or other competent person required by contract was not on site.
- ◆ Work was performed after normal working hours (night).
- ◆ Improper rigging: The sling was not an approved method by the forklift manufacturer for supporting the load.
- ◆ Employee was located directly under the load.
- ◆ Forklift operator was not trained/licensed as required.
- ◆ The forklift weight capacity was exceeded.
- ◆ An Operational Risk Management Activity Hazard Analysis (AHA) was performed but was not on site or reviewed with the workers and when the process was modified it was not updated. The beam length to be lifted changed from approximately 35 feet to 70 feet.
- ◆ A lift plan submitted for similar work was not followed. The dimensions and weight of the beam were not correct and the equipment proposed in the plan was not used.
- ◆ Fatigue: Workers had traveled approximately 10.5 hours and began work the same day without any rest (12 hours maximum for equipment operators with 8 hours of rest is required).
- ◆ Lighting was inadequate for the task.
- ◆ Rigging was not properly inspected prior to use and did not utilize chaffing gear around sharp edges of forks.

## ROOT CAUSE:

- ◆ Lack of contractor supervisory oversight for safe procedures of employees on the worksite.
- ◆ Employee positioned under the load.
- ◆ Wrong equipment for the job – should have used a crane or other equipment or forklift with greater capacity with beam resting on top of forks versus suspended by a nylon sling supported by one of the forks.

## LESSONS LEARNED:

- ◆ High hazard work activities should be constantly supervised and adequately planned out to assure safe work practices are utilized at all times.
- ◆ Assure proactive quality assurances to validate controls are in place for high hazard work operations - particularly those occurring after normal work hours.
- ◆ Contractors should provide sufficient evidence of an effective written safety program before work begins.

