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Massachusetts Warehouse/Delivery Worker Dies When Crushed by Toppled Granite Slabs

Massachusetts Investigation #94-MA-066
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SUMMARY

On October 10, 1994, a 43 year old Massachusetts warehouse/delivery worker died of injuries suffered when he was crushed by toppled slabs of imported polished granite weighing 5,400 pounds. Using a chain fall, the victim and a helper had loaded one bundle containing six slabs of granite onto each side of a wooden A-frame support on the rear of a flat bed truck. The victim was standing to the left of the unsecured load on the flatbed surface at the time of the incident. It appears that the right rear end of the flatbed truck was resting upon a bumper guard of an abutting loading dock and as a result the flatbed surface was listing to the left. The weight of the victim and a co-worker apparently caused additional listing prompting the granite bundle on the left of the A-frame to topple onto the victim. Emergency medical personnel were summoned and responded within minutes of the call. They pronounced the victim dead on the scene approximately twenty-five minutes following the incident. The MA FACE Field investigator concluded that to prevent similar future occurrences, employers should:

- ensure that loads are suitably secured against displacement
- ensure that material transport equipment is secured against displacement
- develop, implement, and enforce a comprehensive safety program which includes procedures for safe handling of heavy materials and worker training in recognizing and avoiding potential safety and health hazards

INTRODUCTION

On October 12, 1994, the MA FACE Program was notified by the -regional U.S. Department of Labor, Occupational Health and Safety Administration (OSHA) office of the death of a 43 year old worker the previous day. An investigation was immediately initiated. The MA FACE Field Investigator conducted an employer interview and incident site assessment on

October 28, 1994. The police report, death certificate, OSHA fatality/catastrophe report and incident summary, multiple photographs and newspaper clippings were obtained during the course of the investigation.

The employer was a year round regional importer and supplier of polished granite products in business approximately one year and one month at the time of the incident. The owner, the victim, a part time warehouse assistant, and a part time secretary were the only employees of the company. The company did not employ a designated safety person, offer safety training, have a safety committee or any written safety rules, policies or procedures in place at the time of the incident.

The victim was the sole warehouse/delivery worker in the company and was employed approximately eight months at the time of his death. His previous work history was unknown.

INVESTIGATION

On October 10, 1994, a 43 year old male warehouse/delivery worker and his helper were working in the company's shipping/receiving dock area to transfer a load of imported polished granite slabs from a semi-trailer truck to the company warehouse for storage. The task involved transferring ten granite slab bundles from the semi-trailer to a flatbed truck to the storage area. Two bundles were moved on the flatbed truck on each trip. Each bundle consisted of six slabs measuring 5'8" x 9'7" x 1 1/4" thick and weighing nine hundred pounds each or 5,400 pounds total. The men were moving the last two of the ten granite slab bundles between vehicles at the time of the incident.

To transfer the final two bundles to the warehouse, the victim backed the company flat bed truck to the loading dock parallel to the semi-trailer container. There was approximately 32" between the truck and the semi-trailer to its left. The victim exited his cab and proceeded with the task of transferring the granite with the help of the warehouse assistant. A ten ton capacity crane was used to transfer the bundles to an A-frame support on the flatbed surface. The A-frame support consisted of two smaller A-frames placed end-to-end to act as one large A-frame capable of carrying the intended load. The angle of the A-frame was 85 degrees to the horizontal. The A-frames were not secured to each other or to the flatbed of the truck.

The investigation revealed that flatbed truck had been backed up until it made contact with the loading dock and the right hand rear bumper of the truck came to rest several inches above the loading dock bumper guard. The bumper guard, one of two, was approximately 12" wide and 4" long. The left hand bumper guard on the dock was located 6" to the left of the truck's bumper and did not make contact with the truck. It appears that when the first bundle was placed on the right hand side of the A-frame it caused the flatbed underside to rest upon the bumper guard. When the second bundle was loaded onto the left hand side of the A-frame, it apparently caused the flatbed to list as there was nothing underneath to support it. When the victim and a co-worker moved to the left side of the flatbed to undo the slings and lash down the load for transport, the surface apparently listed further under their additional weight prompting the unsecured bundle on the left of the A-frame to topple. This forced the A-frames to kick out from beneath the load causing the right hand bundle to fall over on the opposite side of the truck as well.

It appears that the lefthand granite bundle that struck the victim first pinned him by the right foot to the floor of the flatbed. The falling bundle then proceeded to crush him against the sidewall of the adjacent semi-trailer container before falling flat and pushing him down between the vehicles and suspending him by his pinned right foot.

CAUSE OF DEATH

The medical examiner listed the cause of death as blunt force injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should ensure that loads are suitably secured against displacement.

Discussion: Employers should ensure that loads are secured against displacement. If a material restraining system holding the granite slab bundles in place against a firmly anchored A-frame prior to release of the slings were utilized, the incident may very well have been avoided.

Recommendation #2: Employers should ensure that material transport equipment is secured against displacement.

Discussion: The investigation revealed that when the granite slab bundle toppled, the A-frames on which the bundles rested were secured neither together nor to the flatbed surface. Had the A-frames been connected to each other to improve structural integrity and bolted to the flatbed surface to prevent movement, the incident may have been prevented.

Recommendation #3: Employers should develop, implement, and enforce a comprehensive safety program which includes procedures for safe handling and rigging of heavy materials and worker training in recognizing and avoiding potential safety and health hazards.

Discussion: The employer in this incident had no employee safety program and the victim, whose work history was unknown, received no job specific training in the safe handling of heavy materials. Employers should develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, established procedures for safe transfer of heavy materials and employee training in the recognition and avoidance of unsafe conditions and in safe materials handling.

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