Maintenance Worker Dies After Falling 3 Feet Into A Construction Excavation

DATE: November 23, 1992

SUMMARY

On August 29, 1992, a 51 year-old maintenance worker was fatally injured after falling into a construction excavation. The incident occurred at a correctional facility when the victim approached a trench that had been dug for the foundation of a new building. As he was apparently approaching the excavation, he fell into the three foot deep trench and struck his head on a cinder block wall built in the excavation. The victim died of complications related to his injuries nine days after the incident. NJDOH FACE investigators concluded that, in order to prevent similar incidents in the future, the following safety guidelines should be followed:

- **Employers must instruct employees to stay clear of construction areas.**
- **Employers and contractors should ensure that all gates and entrances within the construction areas are sealed and alternate gates or entrances are provided until the work is complete.**
- **Contractors should provide clearly defined barriers and/or warning lines to mark all the boundaries of construction areas.**

INTRODUCTION

On September 15, 1992, NJDOH FACE personnel were notified by the county medical examiner of a worker who died of injuries suffered in a work- related incident. After receiving permission from the employer to investigate, FACE personnel visited the site on September 22, 1992 to interview the employer representative and photograph the scene. Other information on the incident was obtained from the correctional facility's investigation report, the medical examiner's report, and from the NJDOL Public Employees Occupational Safety and Health (PEOSH) program.

The employer was a large, rurally located county correctional facility that has been in operation since 1968. At the time of the incident, the facility held up to 600 inmates and employed approximately 300 correction officers and 100 support staff. The facility training officer was responsible for safety issues, and the facility has a written safety program although it appears that most of their safety and training programs are related to facility security. There is no safety and health committee.

The victim was a 51 year-old maintenance worker who had been hired five months earlier as a maintenance repairer. His official classification was a maintenance repairer low pressure boiler operator, and he held a NJ "Black Seal" boiler operator license. Previous to this job, he had been employed for 25 years as a general maintenance worker at an area hospital.

INVESTIGATION

The correctional facility was undergoing a major building expansion that would roughly double the size of the jail. Several new wings of cell blocks were being added that were in various stages of completion. The construction areas were closed to the public and inmates, and many of the areas were surrounded with security fences. The entire facility, including the new cell blocks, was surrounded with a dirt perimeter road that was patrolled by correctional officers.

The incident occurred at a construction site near the gate of a security fence that surrounded an existing cell block. Construction had recently been started on a new cell block and had progressed to excavating the ground for the building foundations. About 24 feet from the fence gate was an excavated trench measuring approximately five feet across and three feet deep. A three foot high cinder block wall had been built on the foundation in the trench. Yellow tape was used to mark the boundaries of some of the excavations.

The victim was one of ten maintenance workers at the facility. He was responsible for monitoring the boiler room, doing minor repairs (such as clearing drains), changing electrical switches and light bulbs, and other light maintenance work. The victim normally picked up his assignments from work orders that were left on a clipboard in the maintenance office and from verbal requests over the telephone. A supervisor was on duty during the day shifts, but the victim worked alone and was self-supervised during night and weekend shifts. When working alone, he was instructed to complete the work orders and request help for emergency work that he could not complete himself. If all the work was completed, he was to walk through the facility to check on the buildings and maintenance systems.

The morning of the incident, a Saturday, was clear and cool. Except for two workers stacking masonry block nearby, the construction area was inactive that morning. The victim had arrived for work at 11 p.m. on Friday night, and was working his regularly scheduled double shift which would end at 3 p.m. on Saturday. There were three work orders for him to complete, two dealing with clogged drains and one for repairing a chair. These work orders were marked as completed by the victim on the day of the incident, and a log entry notes that the chair was repaired on Saturday at 8:50 a.m.

No one witnessed the incident. At 10 a.m., the correctional officers received a radio call from the victim (who had a walkie-talkie) stating that he was hurt. The officers went immediately to his aid and found him in the trench with a large amount of blood on his head. A large amount of blood was also noted on the side of the cinder block wall in the trench. The victim was responsive to verbal stimuli and was treated by the facility nurse until the ambulance and paramedics arrived 20 minutes later. He was transported to the local hospital where he later underwent surgical procedures. He died of complications related to his injuries on September 7, 1992, nine days after the incident.

It is not known why the victim was in this area or how he fell into the trench. Representatives of the correctional facility speculate that he was going into the cell block to check on the mechanical room and was leaving the area when the incident occurred. It may have been possible that the victim was trying to take a shortcut across the construction site, but this is doubtful due to the large amount of excavation in the area.

CAUSE OF DEATH

The county medical examiner attributed the cause of death to respiratory failure due to head injuries due to a fall.

RECOMMENDATIONS AND DISCUSSION

Recommendation #1: Employers must instruct employees to stay clear of construction areas.

Discussion: Although the victim was authorized to enter the construction area to use the gate to the cellblock, it is not known why he approached the building excavation. To prevent entry into hazardous areas, it is recommended that all facility employees should be instructed to stay clear of construction areas. Personnel that are authorized to enter should be instructed to stay clear of building excavations and should be required to wear hard hats while in the area.

Recommendation #2: Employers and contractors should ensure that all gates and entrances within the construction areas are sealed and alternate gates or entrances are provided until the work is complete.

Discussion: In this case, the victim needed to walk through the construction site in order to get to the cellblock gate. This action exposed the worker to the hazards of the site that may change from day to day. To prevent this, it is recommended that any gates and entrances within the construction areas should be closed. Alternate gates or entrances away from the construction areas should then be provided until the work is complete.

Recommendation #3: Contractors should provide clearly defined barriers and/or warning lines to mark all the boundaries of construction areas.

Discussion: Although the contractor did have yellow warning tape marking some of the construction areas, the area around the entrance to the fence was not clearly marked. In cases where employees may have to approach construction areas, a safe path of entry should be planned with physical barriers and/or warning lines that mark the boundaries of the construction area.

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