MAI-2006-19

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Metal and Nonmetal Mine Safety and Health

REPORT OF INVESTIGATION

Surface Nonmetal Mine
(Cement)

Fatal Fall of Person Accident
August 17, 2006

A-C Equipment Service Corporation
Milwaukee, Milwaukee County, Wisconsin
Contractor I.D. No. ZAL

at

Mitsubishi Cement Corporation
Cushenbury Plant
Lucerne Valley, San Bernardino County, California
Mine I.D. No. 04-00157

Investigators

John A Melfi
Supervisory Mine Safety and Health Inspector

Larry Larson
Mine Safety and Health Inspector

Isabel Williams
Mine Safety and Health Specialist

Originating Office
Mine Safety and Health Administration
Western District
2060 Peabody Road, Suite 610
Vacaville, California 95687
Arthur L. Ellis, District Manager

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Opening in kiln the victim fell through
18 4:45PM

OVERVIEW

On August 17, 2006, Porfirio Mendoza, contract welder, age 37, was fatally injured when he stepped into a manhole located at the bottom of a kiln and fell approximately 28 feet to the concrete below. The victim and two co-workers were cleaning a section of the kiln that was being replaced.

The accident occurred because the procedures to replace a section of the kiln were inadequate and failed to identify possible fall hazards to persons walking inside of the kiln. No barricades or warning signs were posted at all approaches where safety hazards were not immediately obvious to the employees.

GENERAL INFORMATION

Cushenbury Plant, a surface quarry and cement plant owned and operated by Mitsubishi Cement Corporation (Mitsubishi), was located at 5808 state highway 18, Lucerne Valley, San Bernardino County, California. The principal operating official was H. O. Biggs, plant manager and vice president. The mine normally operated two 12 hour shifts per day, seven days per week. Total employment was 170 persons.

Limestone was drilled and blasted from multiple benches. The broken rock was loaded into haulage trucks by a front-end loader and fed into the primary crusher. The crushed rock was conveyed to the plant where it was mixed with other materials to produce cement that was sold in bulk and bag for use in the construction industry.

Mitsubishi contracted A-C Equipment Service Corporation (A-C Equipment), Milwaukee, Milwaukee County, Wisconsin, to replace a section of the kiln at the Cushenbury Plant. The principal operating official was John J. Vitas, president.

A-C Equipment began this repair project on August 14, 2006. They employed 12 persons at this site who normally worked two 12 hour shifts per day, seven days a week.

The last regular inspection at this operation was completed on March 30, 2006.

DESCRIPTION OF THE ACCIDENT

On the day of the accident, Porfirio Mendoza (victim) reported for work at 7:00 pm, his normal starting time. Douglas Bonnett, A-C Equipment supervisor, told Mendoza and David Trevizo and Ouneheuane Saypanya, contract welders, to finish preparing a portion of the kiln for removal.

Since the kiln bricks had already been removed and most of the cuts of metal had been made, Bonnett instructed Mendoza, Trevizo, and Saypanya to remove the cut pieces of metal and any other debris inside the kiln near the location that remained to be cut.

Mendoza picked up the pieces of metal on the discharge side and handed them to Saypanya on the feed side of the cut while Trevizo cleaned up other debris in the kiln. When the clean-up was almost completed, Trevizo started to exit the discharge end while Saypanya picked up the last piece of metal. Mendoza picked up one end of a 4 foot by 8 foot sheet of plywood that temporarily covered a 20 inch by 23 inch manhole on the floor near the center of the kiln. The manhole door had previously been removed so material could be dumped to trucks below. Mendoza started to push the piece of plywood toward the

discharge end of the kiln when he fell through the manhole 28 feet to the concrete below.

At approximately 7:20 p.m., Chris Williams, crane operator, saw Mendoza hit the ground and immediately told Thomas A. Masbrach, A-C Equipment field superintendent, to get help. Masbrach called for emergency medical assistance. Stewart Minter and Jerry Wheeler, Mitsubishi shift supervisors, rushed to help Mendoza. Mendoza was transported by life flight to a local hospital where he died on August 21, 2006. The cause of death was attributed to blunt force trauma.

INVESTIGATION OF THE ACCIDENT

MSHA was notified of the accident at 7:58 p.m., on August 17, 2006, by a telephone call from Ben Bargary, control room operator, to MSHA's emergency hotline. The information was reported to Arthur Ellis, district manager. An investigation was started the same day.

An order was issued under the provisions of Section 103(k) of the Mine Act to ensure the safety of the miners. MSHA's accident investigation team traveled to the mine, made a physical inspection at the accident site, interviewed employees, and reviewed conditions and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management, employees, and contractor management.

DISCUSSION

Location of the accident

The accident occurred in the kiln at the cement plant.

Kiln

The kiln involved in the accident was 250 feet long and 16 feet in diameter. The center of the manhole involved in the accident was 130 feet from the discharge end of the kiln and 120 feet from the feed end. The manhole opening measured 20 inches by 23 inches. A-C Equipment was replacing a 43 foot section of the kiln.

Weather Conditions

Weather conditions were clear and windy with a temperature of 95 degrees Fahrenheit. Weather was not considered a factor in the accident.

Lighting

Daylight entered the kiln through an open manhole cover at the top side of the kiln as well as through the opening provided where the sections of the kiln had been cut. No artificial lighting was being used at the time of the accident. Lighting was not considered a factor in the accident.

Training and Experience
Porfirio Mendoza had a total of 15 years experience and had worked for A-C Equipment for 5 years. He had received training required by 30 CFR, Part 46.

ROOT CAUSE ANALYSIS

A root cause analysis was performed and the following root cause was identified:

Root Cause: Management failed to conduct an assessment of the risk involved before assigning personnel to perform tasks inside the kiln. Safe work procedures were not initiated to ensure that persons were protected from hazards of open manholes inside the kiln. No barricades or warning signs were posted at all approaches where safety hazards were not immediately obvious to employees.

Corrective Action: Prior to starting repair or maintenance tasks, management and employees should jointly discuss all of the possible hazards that may be encountered. Documentation should be completed to ensure that the procedures used to complete the task protect everyone from possible hazards. Management should monitor compliance.

CONCLUSION

The accident occurred because the procedures to replace a section of the kiln were inadequate and failed to identify possible fall hazards to persons walking inside the kiln. No barricades or warning signs were posted at all approaches where safety hazards were not immediately obvious to the employees.

ENFORCEMENT ACTIONS

Mitsubishi Cement Corporation

Order No. 6381871 was issued on August 17, 2006, under the provisions of Section 103(k) of the Mine Act:
A serious accident occurred at this operation on August 17, 2006, when a miner fell approximately 28 feet through the # 3 manhole of kiln 4RK1. This order is issued to ensure the safety of all persons at this operation. It prohibits all activity at the kiln where the accident occurred until MSHA has determined that it is safe to resume normal mining operations in the area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and / or restore operations to the affected area.

The order was terminated on August 19, 2006. Conditions that contributed to the accident had been corrected and normal mining operations can resume.

Citation No. 6373608 was issued on September 13, 2006, under the provisions of Section 104 (a) of the Mine Act for a violation of 30 CFR 56.20011:

On August 17, 2006, a fatal accident occurred at the mine site when a contract employee fell through a 20 inch by 23 inch manhole on the inside of the kiln to the ground 28 feet below. Pursuant to clean up procedures, the kiln structure had been rotated in such a way that the access manhole opening inside the kiln was positioned at the bottom of the kiln and 28 feet above the ground. The manhole door had been removed and the access opening was used to dump material to trucks below. A 48 inch by 96 inch piece of unsecured plywood was placed over the opening. The existence of the opening 28 feet above the ground under a piece of unsecured plywood was a safety hazard which was not immediately obvious to employees. There were no visible warning signs or barricades provided to warn of the hazard or restricted access.

As a result of the health and safety conference review process, this citation was modified from 104(d)(1) to 104(a) on November 30, 2006.

This citation was terminated on September 13, 2006, when a 3/8 inch rolled steel plate was welded over the manhole, eliminating the hazard.

A-C Equipment Services Corporation

Citation No. 6373607 was issued on September 13, 2006, under the provisions of Section 104(a) of the Mine Act for a violation of 30 CFR 56.11012:

On August 17, 2006, a fatal accident occurred at this mine site when a contractor employee fell through a 20 inch by 23 inch manhole opening on the inside of the kiln, to the ground 28 feet below. Pursuant to clean up procedures, the kiln structure had been rotated in such a way that the manhole opening inside the kiln was positioned at the bottom of the kiln and 28 feet above the ground. The access manhole door had been removed and the access opening was used to dump material to trucks below. A 48 inch by 96 inch piece of unsecured plywood was placed over the manhole opening during clean up operations during which workers were required to travel on and near this plywood covered opening. The victim was instructed by his supervisor to go inside the kiln and perform clean up work. While cleaning up, the victim removed the plywood, exposing himself to the 20 inch by 23 inch manhole which was below or near a travel way and he fell through the opening. There were no protective devices such as rails, barriers or covers installed and there no warning signals installed.

This citation was terminated on September 13, 2006, when a 3/8 inch rolled steel plate was welded over the manhole, eliminating the hazard.

Approved By:

_____ _____

Arthur L. Ellis Date
District Manager

Appendix A

Persons Participating in the Investigation

Mitsubishi Cement Corporation

H.O. Biggs ..... plant manager/vice president
Candice L. Wimmer ..... human resource manager
Jim W.Russell ..... plant manager
John .Fowler ..... safety coordinator
Mike T.Powell ..... production supervisor
Michael G.Mursick ..... process foreman
Stewart G. Minter ..... production supervisor
Jerry L.Wheeler..... production supervisor
Ben J.B.Baragry..... process foreman
Pat W.Racobs ..... night safety coordinator

A-C Equipment Services Corporation

John J. Vitas …… president
Thomas A. Masbrach..... project superintendent
Douglas A. Bonnett..... field supervisor
James Faciane..... job supervisor

Mine Safety and Health Administration

John A. Melfi ..... supervisory mine safety and health inspector
Larry Larson..... mine safety and health inspector
Isabel Williams ..... mine safety and health specialist