July 21, 1999

Nebraska FACE Investigation 99NE009

SUBJECT:

Farmer Crushed by Stock Shredder

SUMMARY:

A 71-year-old farmer (who also worked as a truck driver) was killed when a stock shredder he was working on descended and crushed him. He had raised it hydraulically and was working underneath it. The shredder was not blocked up and the hydraulic shutoff valves to the tractor (to which the shredder was attached) were not shut off. It appears the hydraulics on the tractor leaked at the connection which allowed the shredder to slowly fall on the victim. The victim was declared dead at the scene.

The Nebraska Department of Labor Investigator concluded that to prevent future similar occurrences workers should:

* ensure equipment, with a potential to fall, is properly blocked/chocked up prior to getting under it.

* ensure appropriate shutoff valves are shut off prior to working on associated equipment.

* ensure periodic maintenance and pre-task inspections are performed.

PROGRAM OBJECTIVE:

The goal of the Fatality Assessment and Control Evaluation (FACE) workplace investigation is to prevent work-related deaths or injuries in the future by a study of the working environment, the worker, the task the worker was performing, the tools the worker was using, and the role of management in controlling how these factors interact.

This report is generated and distributed **solely** for the purpose of providing current, relevant education to employers, their employees and the community on methods to prevent occupational fatalities and injuries.

INTRODUCTION:

On March 16, 1999, at approximately 3:00 p.m., a 71-year-old farmer was killed when a stock shredder he was working on descended and crushed him. The Nebraska Department of Labor became aware of the fatality on April 13, 1999, via a newspaper article on March 17, 1999. The Nebraska FACE Investigator visited with personnel from the Sheriff's Department on April 1, 1999, who responded to the incident. He also conducted a site visit and talked with the victim's son on May 20, 1999.

The farm where the incident occurred has been in business for 44 years. The farm was run by the victim and his son and they also had one employee. The farm raises primarily agricultural crops. The victim's primary job was as a truck driver, but he also worked around the farm.

INVESTIGATION:

On the morning of the incident, the victim began work at approximately 7:30 a.m. At the time of the incident, approximately 3:00 p.m., he was in the process of removing a hammer head assembly on a Lundele stock shredder. The victim was lying on a mechanic's creeper and was under the shredder when he was discovered by his son. The stock shredder is a machine with rotating steel hammers which strike stock (such as corn stalks) and shred them. The stock shredder was attached to a John Deere 4430 tractor and had been lifted off the ground by hydraulics. The "T" shutoff valves to the hydraulic system on the tractor had not been shut off. The shredder had not been chocked or blocked up.

It appeared the victim started the tractor and raised the shredder with the hydraulics. He then apparently turned the tractor off, got on the creeper and rolled under the shredder to remove a hammer assembly from the shredder. According to the victim's son, this procedure should have only taken a couple of minutes. The shredder settled toward the ground, pinning the victim between the shredder and a concrete entrance to one of the shops. The victim's son found him approximately ½

hour to an hour after the incident. He grabbed a jack and raised the shredder off his father and pulled him out from under the shredder. There did not appear to be any signs of a struggle. The victim was still wearing his glasses. It appears the injuries were crushing rather than cutting as there was no blood loss. He was declared dead at the scene.

After the victim's body was removed, the tractor was started and the shredder was raised to a height of 15 ½ inches. The tractor was then shut off. The shredder began to immediately settle toward the ground. It took 1 minute and 50 seconds to descend to a height of 2 3/4 inches. The tractor was then started again and the shredder was raised to a height of 15 ½ inches. This time the "T" shutoff valves to the hydraulics on the tractor were shut off after the shredder was raised. Then the tractor was shut off. With the hydraulics to the tractor disengaged, the shredder did not descend. It stayed at its original height. An inspection of the tractor by sheriff's personnel revealed a small leak at the hydraulic connection on the tractor. With the "T" shutoff valve open, this small leak allowed the shredder to descend.

CAUSE OF DEATH:

The cause of death, as stated on the death certificate, was massive head and neck trauma.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: Ensure equipment, with a potential to fall, is properly blocked/ chocked up prior to getting under it.

Discussion: Any equipment with a potential to descend or fall should be adequately secured prior to anyone getting under it. Had the shredder been blocked up with wood blocks or supported with adequate equipment jacks, this fatality could have been prevented.

Recommendation #2: Ensure appropriate shutoff valves are shut off prior to working on associated equipment.

Discussion: Had the shutoff valves to the hydraulics on the tractor been shut off, this should have isolated the shredder from the leaking connection (which was on the tractor side of the valve) and the shredder should not have descended. NOTE: Even if the valves had been shut off, the shredder

still needed to be blocked up.

Recommendation #3: Ensure periodic maintenance and pre-task inspections are performed.

Discussion: Periodic maintenance should be performed in accordance with manufacturers specifications. Also, pre-task inspections should be performed on key systems, such as brakes, hydraulics and lights. The leaking connection might have been discovered in a thorough pre-task inspection and fixed prior to use.

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