

**DATE:** September 28, 1998

**FROM:** Minnesota Fatality Assessment and Control Evaluation (MN FACE)  
Program Minnesota Department of Health

**SUBJECT:** MN FACE Investigation 98MN03901  
Farmer Dies After Becoming Caught In Barn Cleaning System

## **SUMMARY**

A 60-year-old male farmer (victim) died after he became caught in a gutter cleaner inside a dairy barn. On the day of the incident, he was cleaning the barn that was used for approximately 25-30 young cows. The barn's gutter was equipped with a mechanical cleaner that consisted of a large continuous chain with metal bars fastened to it. At the ends of the barn, steel panels were used to cover the gutter so tractors or other vehicles could be driven into and out of the barn. The panels were not secured to the concrete barn floor but instead laid loosely over the gutter openings. While the victim worked inside the barn he used a shovel to push manure into the gutter while the gutter cleaner was operating. He apparently slipped and struck his head as he fell. He became caught in the cleaner at one end of the steel plate that covered the gutter on one end of the barn. The victim was discovered by his wife later in the afternoon on the day of the incident. She stopped the cleaner and placed a call to emergency personnel. They arrived at the scene shortly after being notified, removed the victim and pronounced him dead at the scene. MN FACE investigators concluded that, in order to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- workers should always wear footwear that is appropriate for the work environment.;
- and
- safety panels should be securely fastened in place to prevent accidental displacement.

## **INTRODUCTION**

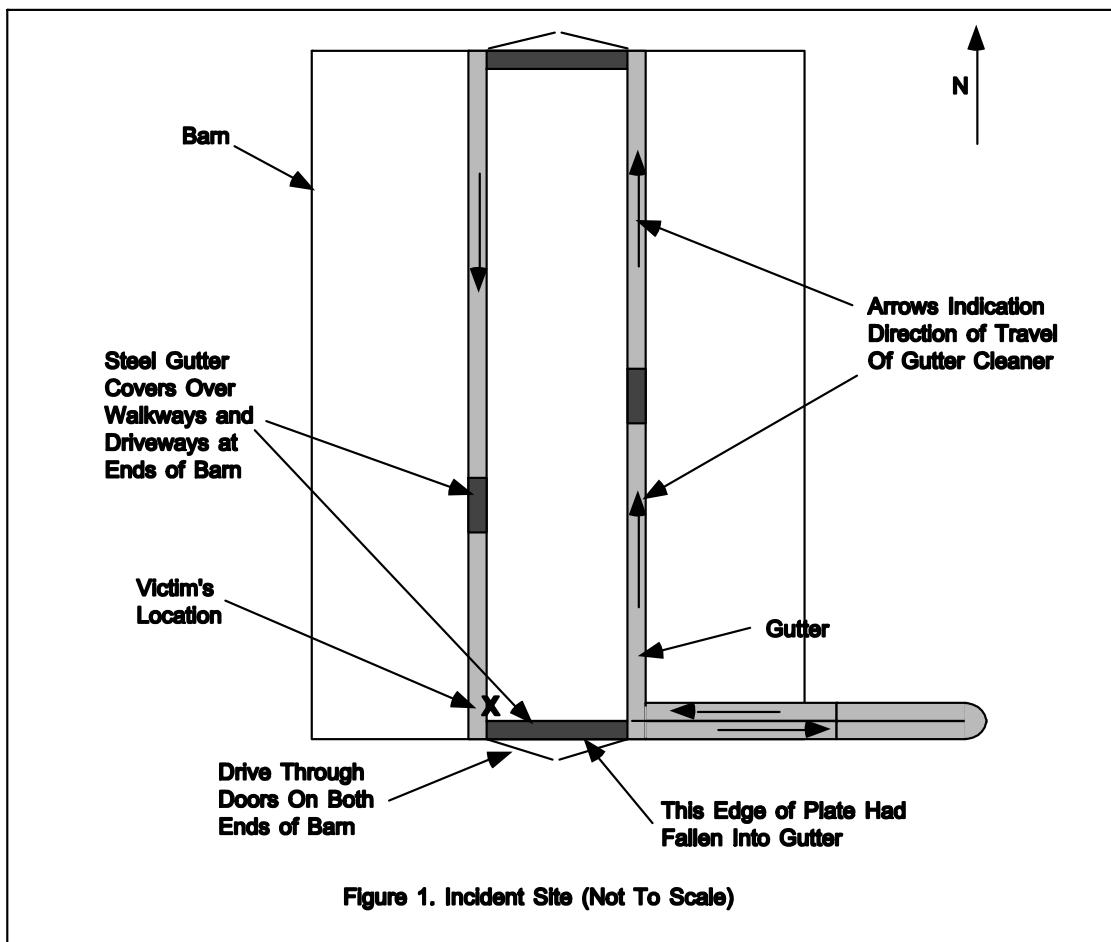
On July 10, 1998, MN FACE investigators were notified of a farm work-related fatality that occurred on February 16, 1998. The county sheriff's department was contacted and a releasable

copy of their report of the incident was obtained. A site investigation was conducted by a MN FACE investigator on August 7, 1998. During MN FACE investigations, incident information is obtained from a variety of sources such as law enforcement agencies, county coroners and medical examiners, employers, coworkers and family members.

## **INVESTIGATION**

On the day of the incident, the victim was cleaning a small barn that was used for approximately 25-30 young cows. The barn's gutter (Figure 1) was equipped with a mechanical cleaner that consisted of a large continuous chain with metal bars fastened to it. The bars acted as scrapers to remove manure from the gutter and were spaced every 16-18 inches along the chain. The gutter was approximately 18 inches wide and 18 inches deep. At the ends of the barn, steel panels were used to cover the gutter so tractors or other vehicles could be driven into and out of the barn. The steel covers were approximately 24 inches wide and 7 feet long. They were not secured to the concrete barn floor but instead laid loosely over the gutter openings adjacent to the doors at each end of the barn. The gutter was also fitted with two smaller steel covers for workers to walk across while working inside the barn.

While the victim worked inside the barn he apparently used a shovel that was found near him to push manure into the gutter while the gutter cleaner was operating. Photographs taken shortly after the victim was discovered showed that he became caught in the cleaner at one end of the steel plate that covered the gutter on the south end of the barn. However, it could not be determined exactly why he became caught in the gutter against the edge of the steel plate. He may have slipped and lost his footing on the wet floor and struck his head as he fell. The steel gutter cover was found slightly out of position with its outside edge no longer on the concrete edge of the gutter but instead it had fallen at an angle into the gutter. This may have occurred after the victim fell into the gutter and his body was forced against the end of the steel plate by the scrapers of the gutter cleaner.



The victim was discovered by his wife later in the afternoon on the day of the incident. She stopped the cleaner and placed a call to emergency personnel. They arrived at the scene shortly

after being notified. They removed the victim from where he was caught and pronounced him dead at the scene.

## **CAUSE OF DEATH**

The cause of death listed on the death certificate was severe trauma to head and left arm.

## **RECOMMENDATIONS/DISCUSSION**

**Recommendation #1:** Workers should always wear footwear that is appropriate for the work environment.

**Discussion:** Although it was not determined what type of footwear the victim was wearing at the time of this incident, a general safe work practice for all workers is to wear footwear that is appropriate for the work environment. Shoes with non-skid soles that are designed to reduce the risk of slipping should be worn whenever workers are required to walk, stand or climb on surfaces where there may be an increased danger of slipping and falling. Prior to this incident the victim walked through snow and ice which when combined with a wet concrete barn floor produced a very slippery work environment. Whenever multiple conditions such as those that existed at the time of this incident, workers are at increased risk of falling and being seriously or fatally injured.

**Recommendation #2:** Safety panels should be securely fastened in place to prevent accidental displacement.

**Discussion:** Whenever panels, grates or any type of shield is used to cover openings and prevent workers from being exposed to hazardous conditions, they should be securely fastened in place. In this incident, steel panels were used at several locations to cover the gutter opening and enable both pedestrian and vehicular movement across the gutter. However, none of the panels were secured to the concrete floor to prevent them from accidentally being displaced. Each panel should be secured with hinges along one edge to enable them to be opened to access the gutter cleaner for necessary service and repair. Although this incident wouldn't have been prevented if the steel panels had been secured to the floor, the risk of workers being injured would be reduced and the accidental displacement of the panels would be eliminated by securely fastening the panels to the concrete floor.

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