



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research



Billboard Worker Dies when Scaffold Makes Contact with Power Line in Tennessee

FACE 85-34

Introduction:

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), is currently conducting the Fatal Accident Circumstances and Epidemiology (FACE) Project, which is focusing primarily upon selected electrical-related and confined space-related fatalities. By scientifically collecting data from a sample of fatal accidents, it will be possible to identify and rank factors that influence the risk of fatal injuries for selected employees.

On July 20, 1985, at approximately 11:25 a.m. a 39-year-old billboard poster for an outdoor advertising company was electrocuted as he prepared to post a billboard. The billboard was over 30 feet above the ground and was a “back-to-back” board (having two signs), with separate catwalks three feet below the individual billboards.

Contacts/Activities:

Officials of the Occupational Safety and Health Program for the State of Tennessee notified DSR concerning this fatality and requested technical assistance. This case has been included in the FACE Project. On August 6, 1985, the DSR research team (which consisted of an industrial hygienist and a safety engineer) conducted a site visit, met with an employer representative, interviewed comparison workers, interviewed the next of kin, and photographed the accident site.

Overview of Facilities' Safety Program:

The employer is an outdoor advertising company that has 25 employees at this office and has similar offices throughout the United States. The local office constructs, maintains, and posts approximately 1300 billboards in a metropolitan area. The supervisor of operations is assigned safety responsibilities on a collateral-duty basis for the facility and a contact for safety-related issues is provided at corporate headquarters.

The company has written safety policies; however, these policies are not specific to bill posting. Monthly safety meetings are conducted. Recently, such topics as crane safety and falls have been discussed. Personal protective equipment (i.e., safety lines, hardhats, etc.) is provided; however, prior to the accident this equipment was not routinely used. Subsequent to the accident, the facility has initiated disciplinary actions for employees not wearing this equipment. Planning of billboard location (i.e., nearness to power lines) is the responsibility of the supervisor of operations, but the bill posters are responsible for identifying hazards associated with the individual billboards as they post the boards. The local facility does not periodically analyze its accident history.

Synopsis of Events:

The victim had not posted a sufficient number of boards during the week to satisfy his quota; therefore, he had two boards to post on Saturday, July 20, 1985. He reported to work at 6:45 a.m. With the exception of a brief visit to the company's office, his whereabouts are unknown until 11:25 a.m. (the time of the accident). The victim had thirteen years of experience posting billboards and had posted this billboard approximately 20 times.

The billboard poster climbed to the catwalk using a ladder from his truck and a fixed ladder on the billboard. He removed loose paper from one of the billboards and then used a rope to raise materials and equipment needed to post the billboards. He raised two new signs and two hangers to the catwalks. Apparently he had propped his 20 foot stage against the center support of the billboard. (The stage is supported by a hanger on each end and provides a work platform for the bill poster.) From the inside of the catwalk on which he was standing, the victim raised the stage using a rope. The billboard poster was facing the inside of the sign with his back to the 13.8 kV power lines. When the stage was raised to where he could reach it, the victim grasped the stage and continued to lift it to the catwalk. This required the billboard poster to "thread" the stage through the area between the billboard and the catwalk. As he lifted the stage, he contacted the 13.8 kV power line that was located approximately eight feet horizontally and one foot vertically from the catwalk. The victim provided a path to ground and was electrocuted. A witness stated in a local paper that the victim "stumbled ... and fell to the street." The stage remained balanced between the wire and the catwalk.

The circuit breaker tripped at 11:25 a.m., as a result of the above contact. The accident site was directly across from a hospital. EMT response is estimated to be three minutes and an ambulance responded within eight minutes. The victim was pronounced dead on arrival at the hospital. The cause of death was cardiac-respiratory arrest due to electrocution. The victim also suffered multiple chest and head injuries as a result of the thirty-foot fall.

Recommendations/Discussion:

Recommendation #1: The power lines that the victim contacted or the billboard should be moved to eliminate this hazard.

Discussion: The victim raised his equipment from the catwalk on the same side as the fixed ladder and the power lines. Comparison workers stated that they raise their equipment on the side away from the ladder to avoid its obstruction. In general this appears to be a better work practice. Although at this specific billboard this improved work procedure may reduce the possibility of a future incident, it will not eliminate the potential for an accident. Even when moving the stage to the other catwalk or, when lowering the equipment, these same power lines may be contacted.

Recommendation #2: Employers should identify all safety hazards at the work site.

Discussion: A job site survey that would identify any safety hazards present at a given job site should be performed periodically on all company billboards. This job site survey should minimally include the identification of hazards such as: a) high voltage power lines close to a billboard, b) terrain around the billboard that would cause the billboard worker to set up his ladder in an unsafe place or manner, c) traffic, d) board conditions, and e) any other special conditions that may impact safety. A record of these hazards should be maintained and billboard workers should be made aware of any hazards they might encounter on the billboards they are to post on a given day. Any hazards identified on a given board could be listed on a warning sign or sticker and placed in clear view on the lower face or frame of the board. Once these hazards are identified, they can be controlled.

Recommendation #3: Employers should develop written safe job procedures that are task specific.

Discussion: The employer has a written safety policy; however, this policy does not contain any specific guidelines (i.e., job safety analysis) concerning the procedures to be followed or the equipment to be used when posting billboards and does not identify specific safety hazards. A safety policy specific to the posting of billboards and other high risk tasks should be developed and detailed procedures should be included that address the various safety hazards associated with these tasks. Once these specific procedures have been developed, the employer should assure that they are implemented and enforced.

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