

## FACE 92-05

### Painter Dies After 80-Foot Fall From Electrical Transmission Tower In Indiana

#### SUMMARY

A 31-year-old painter (victim) died from injuries sustained in an 80-foot fall from a 120-foot-high electrical transmission tower. The victim was a member of a four-man crew painting the tower. The crew had painted one side of the tower, from top to bottom, and had begun to paint the other side. The four crew members were working at the same level on the tower and all were wearing safety belts and lanyards. As the victim unhooked his lanyard to reposition himself on the tower, he lost his balance and fell to the ground. NIOSH investigators concluded that, in order to prevent similar occurrences, employers should:

- ensure that workers continually adhere to the safe work procedures that have been established by the employer
- evaluate the feasibility of a redundant fall-arresting system
- routinely conduct scheduled and unscheduled worksite safety inspections.

#### INTRODUCTION

On September 23, 1991, a 31-year-old painter died from injuries sustained when he fell 80 feet from an electrical transmission tower. On November 14, 1991, officials of the Indiana Occupational Safety and Health Administration (INOSHA) notified the Division of Safety Research (DSR) of this fatality, and requested technical assistance. On December 19, 1991, a DSR safety specialist traveled to the incident site to conduct an investigation. The incident was reviewed with the company owner, INOSHA compliance officer, county coroner, police department personnel, and medical examiner.

The employer was a painting contractor that specialized in painting electrical transmission towers and substations. The employer had a written safety program and a written hazard communication program. Material Safety Data Sheets for the paints and solvents used were available in all company trucks. New employees listened to a 30-minute safety presentation when hired and had to read the written safety rules and sign a statement verifying they had read the rules before reporting to a supervisor. The employer supplied new lanyards and safety belts to the painters on a yearly basis and coveralls were available to all painters. The employer maintained four full-time crews and hired additional crews as necessary. The victim and his crew had performed three jobs for the employer, totaling 3 months of employment.

## INVESTIGATION

The employer had an ongoing contract with an electric utility to paint cross-country two-sided steel transmission towers and substations. The employer had two four-man crews at the jobsite painting separate towers. The victim's crew was painting their second 120-foot-high tower of the day. It took 22 hours to complete one tower. The crew had painted one side of the tower with solvent-based paint from top to bottom and had begun to paint down the opposite side of the tower. The crew members were wearing safety belts and lanyards and were tying the lanyards off directly to the tower. It was necessary to disconnect the lanyards to change position. The painters would tie off again when they were repositioned. The crew had progressed 40 feet down the side of the tower. The victim disconnected his lanyard and attempted to move when he lost his balance and fell from the tower, 80 feet to the ground. The three remaining crew members descended the tower and one ran to a nearby farmhouse to tell the owners to call the emergency medical service (EMS). The second crew, two towers away, also ran to the scene. The victim was breathing and conscious but was bleeding from the mouth, nose, and ears. The EMS arrived within 10 minutes and transported the victim to the hospital where he was pronounced dead by the attending physician.

## CAUSE OF DEATH

The medical examiner listed massive internal trauma as the cause of death.

## RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should ensure that workers continually adhere to the safe work practices established by the employer.

Discussion: Employers should constantly stress the importance of adherence to established safe work procedures when possible. In this instance, established practice required workers to use safety belts and lanyards at all times; however, the victim disconnected the lanyard from the tower to reposition himself. Employers should provide and enforce the use of PPE in accordance with 29 CFR 1926.124. Whenever possible, workers performing tasks on elevated surfaces should not attempt to move without their fall protection being in place.

Recommendation #2: Employers should evaluate the feasibility of a redundant fall-arresting system.

Discussion: In this instance, the victim relied solely on his safety belt and lanyard as the fall arresting system, even though the victim would disconnect the lanyard from the tower to reposition himself. Prior to the start of work on the tower, a rope for each painter could have been attached to the top of the tower to serve as a lifeline. Either a self-retracting lanyard, or a standard lanyard equipped with a "rope grab" attached to the lifeline, would have provided a second suspension point for fall protection.

[ A "rope grab"--a friction activated deceleration and locking device--could have been fitted onto the lifeline; this would have slowed and stopped the victim's fall. Several design configurations are available for these devices--inertial locking, cam/lever locking, or both--and each is effective against this type of fall hazard. An alternative safety device would be a self-retracting lanyard. This is another kind of deceleration and locking device, which contains a drum-wound line. The line can be wound and unwound within certain limits to accommodate normal worker movements; however, during a fall, centrifugal force activates locking devices which stop drum rotation and arrests the fall. Either a rope grab or a self-retracting lanyard would have protected the victim when the lanyard was not attached to the tower.]

Recommendation #3: Employers should routinely conduct scheduled and unscheduled worksite safety inspections.

Discussion: Scheduled and unscheduled safety inspections should be conducted by a qualified person to ensure that required personal protective equipment (PPE) is worn whenever possible. No matter how comprehensive, a safety program cannot be effective unless implemented in the workplace. Even though these inspections do not guarantee the elimination of occupational injury, they do demonstrate the employer's commitment to enforcement of the safety program.

## REFERENCE

29 CFR 1926.104. Code of Federal Regulations, Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register.