

ISSUE DATE: 03/21/2012
LAST VALIDATED: 3/26/2026

PROGRAM INFORMATION BULLETIN NO. P12-04

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SUBJECT: Reissue of P07-06 - Guy Wires of Poles Supporting High-Voltage Electric
Power Lines

Scope

Coal and Metal and Nonmetal (MNM) mine operators, miners and miners' representatives, electrical contractors, Mine Safety and Health Administration (MSHA) enforcement personnel, and other interested parties should have this information.

Purpose

This Program Information Bulletin (PIB) summarizes and clarifies the requirements in Title 30 of the Code of Federal Regulations (30 CFR) for guy wires attached to poles supporting high-voltage electric power lines at both Coal and MNM mines. This bulletin is also intended to promote consistent enforcement of these standards, as well as promote safety.

Information

Title 30 CFR 56/57.12047 addresses guy wires of poles supporting high-voltage transmission lines at surface mines and surface areas of underground metal and nonmetal mines. The standards require that guy wires meet the grounding or insulator protection provisions of the National Electrical Safety Code, Part 2, entitled "Safety Rules for the Installation and Maintenance of Electric Supply and Communication Lines" (also referred to as National Bureau of Standards currently, National Institute of Standards and Technology Handbook 81, November 1, 1961) and Supplement 2 thereof, issued March 1968. Title 30 CFR 77.705 addresses guy wires from poles supporting

high-voltage transmission lines at surface mines and surface areas of underground coal mines. In using the term “transmission lines,” MSHA is referencing all high-voltage electric power lines. This coal standard requires guy wires to be securely connected to the system ground or be provided with insulators installed near the pole end of each guy wire. Compliance with the Coal and MNM standards assures that guy wires do not become energized and present a shock hazard to miners.

Therefore, MSHA inspectors and mine operators should:

- Ensure that each guy wire extending from power poles supporting energized high-voltage power lines are securely connected to the system ground or are provided with properly rated insulators installed near the pole end of each guy wire. Generally, the insulators are installed at least eight feet from the guy wire anchor point and/or in such manner that if the guy wire becomes loose it would not contact the energized conductors.
- Examine the area around guy wire installations for potential electrical hazards before trimming weeds and brush or otherwise working in the vicinity of guy wires.
- Ensure that the guy wires are properly anchored to ground and that anchor points are marked for identification.

Background

There have been several fatalities attributed to energized guy wires. The most recent fatality occurred on July 27, 2006, at a crushed stone operation. The accident occurred when a laborer, with two years experience, struck the guy wire of a power pole while using a weed trimmer equipped with a circular steel blade to cut weeds and brush near the pole. The blade severed the guy wire, causing it to contact the 23,000-volt energized conductors of the pole mounted transformer and electrocuting the laborer. An illustration of the hazards leading to this fatality is attached. On May 4, 2006, an independent contractor at a coal mine was electrocuted while clearing brush and timber from the right-of-way of a 12,470-volt transmission line. The victim contacted an energized guy wire that was used to support a pole-mounted transformer bank installed in the right-of-way. On September 19, 1990, a fatality occurred at a coal mine while the victim was moving a loosened guy wire and contacted one phase of the energized high-voltage electric power line. These fatalities could have been prevented if the guy wires had been properly grounded or insulated in accordance with the above referenced standards.

Authority

Federal Mine Safety and Health Act of 1977
30 CFR, Parts 56/57.12047 and 77.705.

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Internet Availability

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Distribution

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