This presentation is for illustrative and general educational purposes only and is not intended to substitute for the official MSHA Investigation Report analysis nor is it intended to provide the sole foundation, if any, for any related enforcement actions.

#### Coal Mine Fatal Accident 2004-23



Operator: Omega Mining, Inc.

Mine: Southern Crescent Mine

Accident Date: October 23, 2004

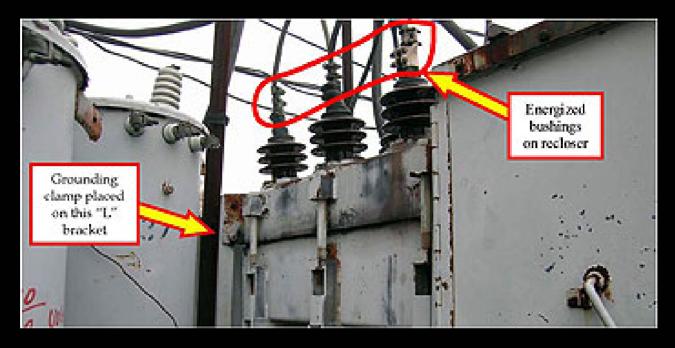
Classification: Electrical

Location: District 5, Russell County, VA

Mine Type: Underground

Employment: 27

Production 650 Tons/Day



On October 23, 2004, 56-year old Chief Electrician with 39 years mining experience (35 years as an electrician) and two other employees were installing a new transformer bank at the mine site. During the setup, the victim apparently went to install the grounding clamps to the incoming 12,470 VAC high-voltage powerlines prior to deenergizing them. The victim was on a metal platform when he attempted to attach the grounded clamp to an energized bushing of a recloser. The resulting arc burned the victim and he collapsed on the platform. He died on October 29, 2004.

# **ROOT CAUSE ANALYSIS**

<u>Causal Factor:</u> The root cause of the accident was the failure to open the fused disconnects before attempting to ground the circuit at the recloser.

<u>Corrective Actions:</u> Management has developed and distributed a procedure checklist outlining the steps that should be taken when disconnecting power at the substation. Affected miners have been retrained in the procedure.

# CONCLUSION

The accident resulted from failure to follow the proper sequence of actions necessary to safely deenergize and ground the incoming high-voltage circuit. When the high-voltage circuit was grounded before it was deenergized, a three phase fault was created that released an intense discharge of heat that burned the victim and caused the fatal injury.

### **ENFORCEMENT ACTIONS**

104(a) Citation was issued for a violation of 30 CFR 77.501. Electrical work was performed on a 12,470 VAC high-voltage distribution circuit before the disconnecting device was opened and suitably tagged. The Chief Electrician attempted to install grounding clamps on the high-voltage circuit prior to deenergizing and tagging the circuit.

#### **BEST PRACTICES**

- Ensure that high-voltage lines are de-energized and grounded, and visual disconnecting device(s) are locked out and tagged before performing electrical work.
- Install grounding devices only on the load side of open visual disconnects.
- Use personal protective equipment (gloves, etc.) when performing electrical work.
- Ensure that all circuit breakers and disconnecting switches are properly marked for identification purposes.
- Never assume that you know how a circuit is wired. Ask for help and/or consult a wiring diagram/schematic if you are unsure.
- Use properly rated non-contact voltage testers to ensure that circuits are de-energized.