



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Bureau of Deep Mine Safety  
Fayette County Health Center  
Room 167, 100 New Salem Road  
Uniontown, PA 15401

June 29, 1990

Mr. Thomas J. Ward, Jr.  
Director  
Bureau of Deep Mine Safety  
P. O. Box 2357  
Harrisburg, PA 17120

Dear Mr. Ward:

We, the undersigned members of a Commission appointed by you on April 25, 1990, under Section 334 of the Pennsylvania Bituminous Coal Mining Laws, have completed our investigation and herewith submit our report.

The Commission was formed upon receiving Cyprus Emerald Resources Corporation's (Emerald Mine) application for approval to use a 2,375 voltage (high voltage) longwall mining system.

After extensive evaluation of the Cyprus Emerald Resources high voltage longwall mining proposal, the Commission finds that the specifications set forth in the proposal, as modified by requirements in items #1 and #2 below, will provide protection to personnel and property equal to, or in excess of, the requirements of the Act. Therefore, we recommend approval be granted to Cyprus Emerald Resources (Emerald Mine) and all bituminous coal mines.

I. SPLICING -

Splices shall not be made in any of the high voltage longwall cables except that a maximum of two splices may be made in the shearing machine cable and a maximum of two splices may be made in the cables between the power center and the stage loader.

Any such splice shall be made in a workmanlike manner and in accordance with the instructions of the manufacturer of the splice or repair materials. The outer jacket of any such splice shall be formed by using MSHA flame-resistant cold pour material. After a splice has been made in the cable, the ground fault relay protecting the cable shall be tested each operating shift. After the second splice has been made in the cable, the operator shall have seven consecutive days to either remove the splices from the cable or replace the cable. No splices shall be made within 50 feet of the shearing machine or stage loader. The operator shall maintain a written record of each splice. The record shall be kept on the working section and include the following information:

- A. Name of person who made the splice
- B. Date the splice was made
- C. Location of the splice in the cable



Cable jacket repairs not involving conductors, conductor insulation or shielding are not considered to be a splice.

II. CABLE HANDLING -

Miners wearing properly rated high voltage gloves or insulated sticks shall be permitted to train the shearing machine cable to keep it in the cable trough. Miners shall not handle this cable if the cable is out of the cable trough, unless the cable has been de-energized. Miners shall not handle any other energized high voltage cable.

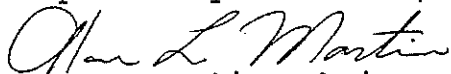
III. TIME DELAY CIRCUITRY -


The Commission has reviewed the time delay circuitry proposed by Cyprus Emerald relating to ground fault, overload and instantaneous protection of the trailing cables. We have concluded the time delays shown on the Service Machine power center drawings are acceptable. See "References".

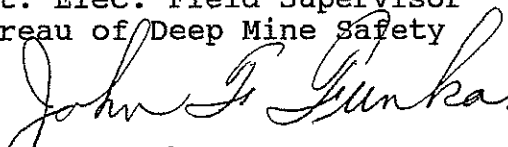
IV. ILLUMINATION AND WELDER CIRCUITS -

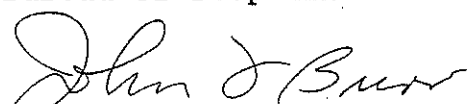
The Commission has reviewed the ground fault protection of the illumination and welder circuits proposed by Cyprus Emerald. We have concluded the ground fault protection shown on the Service Machine longwall controller drawing is acceptable. See "References".


Respectfully submitted,

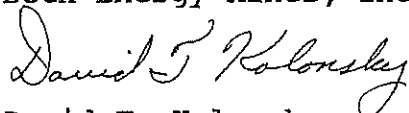
  
Alan L. Martin, Chairman  
Acting Section Electrical Chief  
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Area Manager - Maintenance  
U. S. Steel Mining Co., Inc.

  
Alexander V. Prodan  
Chairman, Health & Safety Comm.  
UMWA Local Union #2258

**REFERENCES:**

Commission assignment letter from Thomas J. Ward, Jr.  
dated April 25, 1990

Meeting dates:    May 4, 1990  
                  May 9, 1990  
                  May 30, 1990  
                  June 18, 1990  
                  June 29, 1990

Power Distribution Products:

Wiring Diagram - 3000 KVA Longwall Load Center  
Drawing No. - D 4728-1    Sheet 1 to 27  
                          Sheet 1        Revision 1  
                          Sheet 2        Revision 3  
                          Sheet 7        Revision 3  
                          Sheet 8        Revision 2

Service Machine Company:

Schematic Diagram 2300 Volt Longwall Control  
Drawing No. CE-LWD-001    Sheets 0 to 8  
  Revisions 0

Wiring Diagram - 2300 Volt Longwall  
Drawing No. WD624        Sheets 9 to 16  
  Revisions 0

Bulletin SM 201 Master Control  
Wiring Diagram  
Drawing No. WB399        Revision 0

